TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

MECHANICAL PROPERTIES OF TEXTILE FIBERS. PART 2. DECREASE OF CROSS-SECTIONAL AREA ACCOMPANYING LONGITUDINAL EXTENSION. K. Higuchi and H. Takai. J. Textile Machy. Soc. Japan 13, No. 1: 24-27 (1960). In Japanese (English summary). Through BCIRA 40: 1392 (1960). (2236)

A tester based on the principle of the air-micrometer was used. With nylon gut, an almost constant Poisson ratio (0.385-0.386) is obtainable until the longitudinal strain rises to 11-13%; beyond this limit the lateral strain shows another tendency and the Poisson ratio reaches 0.446 at break.

SOME PROBLEMS ASSOCIATED WITH QUALITY OF PAKISTANI COTTON. J. W. Wright. Pakistan Inst. Cotton Research & Technol. Technol. Bull., Series A, No. 1: 1-8 (Jan. 1960). (2237)

STUDIES ON NATURAL AND SYNTHETIC FIBERS. PART 5. PROPERTIES OF COLLAGEN FIBERS: ENTHALPY OF MIXING DRY AMORPHOUS COLLAGEN WITH WATER. J. F. M. Oth. Kolloid Z. 168, No. 1: 49-56 (1960). In French. Through BCIRA 40: 1253 (1960). (2238)

The degree of swelling in water of amorphous collagen, treated for varying times with p-benzoquinone, was measured as a function of temperature with a view to determining the heat of mixing the dry amorphous collagen with the swelling water. The results are discussed.

NATURAL AND ACCELERATED AGING OF HIGH-POLYMER FIBER MATERIALS. A. Sippel. Kunststoffe 49: 626-631 (1959). Through BCIRA 40: 1393 (1960). (2239)

A formula expressing the relation between degree of polymerization and breaking strength during aging of natural and synthetic polymer fibers is given; it holds good for aging by heat or light, with or without degradation catalysts.

Natural fibers A1

STUDIES ON THE STIFFNESS OF SILK FIBERS. PART 3. INFLUENCE OF SOFTENERS UPON THE RIGIDITY OF RAW SILK. H. Takagi. J. Soc. Textile Cellulose Inds. Japan 16, No. 1: 25-30 (1960). In Japanese (English summary). Through BCIRA 40: 1399 (1960). (2240)

The relative rigidity and weight increase of raw silk treated, and untreated, with solutions of different softeners was measured, and the results are shown graphically and discussed.

MIXED-QUALITY COTTON BALES. R. C. Soxman. U. S. Agri. Mktg. Serv., Washington 25, D. C. Feb. 1960. 30 p. AMS-361. (2241)

This study was designed (1) to obtain information on the nature and extent of bales mixed in grade or staple, by origin and time of ginning; (2) to develop data suitable for appraising means of reducing the relative volume of such bales; and (3) to evaluate the frequency and extent to which bales that are uniform in grade and staple may vary in fiber characteristics according to routine test procedures.

NITROGEN AND MINERAL CONTENTS OF SOME INDIAN COTTONS AND THEIR RELATION TO METHYLENE BLUE ABSORPTION. R. H. Dastur and D. B. Sahasrabudhe (Inst. Plant Ind., Indore). Indian J. Agri. Sci. 28, Part 3: 285-310 (1958). Summary in Chem. Abstr. 54: 5095 (1960). (2242)

QUALITY CHARACTERISTICS OF COTTON PRODUCTS COMPARED TO THOSE MADE FROM OTHER FIBERS. A. Ahmed. Pakistan Cottons 4: 139-150 (Jan. 1960). (2243)

41 refs.

COTTONS OF THE WORLD. A. Sattar. Pakistan Cottons 4: 161-195 (Jan. 1960). (2244)

Chapter 9. World cotton crops: Asia. Chapter 10. World cotton crops: Europe, Africa, and Russia. Chapter 11. Summary and conclusions. Bibliography: p. 192-195.

MECHANICAL PROPERTIES OF FEATHER AND DOWN FIBERS. PART 1. MEASUREMENTS AT 65% RH AND 70° F. J. H. Dusenbury, C.-N. Wu, and C. J. Dansizer (Textile Research Inst.). Textile Research J. 30: 277-290 (Apr. 1960). (2245)

The elastic moduli of European goose feather barbs and down filaments have been measured at 70° F and at 65% RH and various pressures of dry air. A detailed series of measurements has been made at 65% RH and 70° F of the extensional properties, the bending modulus, and the torsional modulus. The extensional properties and the bending and torsional moduli of the feather barbs are greater than those of the down filaments, and vane feather barbs exhibit larger moduli than do fluff barbs. The significance and limitations of these measurements are discussed. Tables, 17 refs.

ANNUAL COTTON QUALITY SURVEY: SUMMARY OF RESULTS OF FIBER AND PROCESSING TESTS FROM SELECTED MARKET AREAS, CROP OF 1959. U. S. Agri. Mktg. Serv., Washington 25, D. C. Apr. 1960. 134 p. Agri. information bull. no. 227. Free. (2246)

NATURE OF THE DEGRADATION OF JUTE CELLULOSE AND JUTE FIBER IN STORAGE. H. Chatterjee and A. K. Mazumdar (Indian Central Jute Comm.). (Letter to the editor). Textile Research J. 30: 324-326 (Apr. 1960). (2247)

Manmade fibers A2

EVALUATION OF THE BEHAVIOR OF TEXTILE MATERIALS DURING STRETCHING. E. A. Nemchenko and N. A. Novikov. Khim. Volok. No. 5: 63-67 (1959). In Russian. Through BCIRA 40: 1249 (1960). (2248)

The relationship between stress and deformation, the permanent deformation, the extensibility modulus, and the stretching force are examined on viscose, Kapron, and Khlorin fibers to evaluate the properties of the fibers, yarns, and fabrics during processing and use. The results are presented graphically.

RUSSIAN AND SATELLITE RESEARCH AND DEVELOPMENT IN THE FIELD OF SYNTHETIC FIBERS. R. C. Laible and L. I. Weiner (Quartermaster Research & Eng. Command). Textile Research J. 30: 239-248 (Apr. 1960). (2249)

Manmade fiber developments in the Soviet orbit are discussed in relation to Western achievements. At least three of the fibers--Enant, a nylon 7, Ftorlon, a fluorine-containing copolymer, and Vinitron, a combination of nitrocellulose with chlorinated polyvinyl chloride--have no counterparts in the United States or Great Britain. Other fibers, such as Nitron, Lavsan, Anid, Steelon, and Khlorin are so closely related to Orlon, Dacron, nylon 66, nylon 6, and Pe Ce respectively that the degree of originality in their development cannot be ascertained. East German experimental work on hollow fibers and the conjectural Latvian use of 2-methyl piperazine for the preparation of new polyamides show the possible contribution of the satellite countries to the total Soviet effort. Photomicrographs, diagrs, graphs, table, 44 refs.

PRODUCTION OF MANMADE FIBERS. S. L. Hayes, Jr. (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 49: P357-P362 (May 16, 1960). (2250)

The wet spinning of rayon, melt spinning of nylon and Dacron, and the dry spinning of Orlon are reviewed, and the importance of quality control is pointed out. Diagrs.

VYRENE THREAD AND ITS PLACE IN THE ELASTIC FABRIC INDUSTRY. K. J. Rupprecht (U. S. Rubber Co.). Knitted Outerwear Times 29: 13, 39 (May 9, 1960). (2251)

Properties that make Vyrene spandex fiber useful in elastic fabrics.

STUDY OF THE PHYSICOMECHANICAL PROPERTIES OF THE COTTON QUALITIES SPUN IN 1958. M. Florescu. Industria Textila 10, No. 12: 453-459 (1959). In Rumanian. Through BCIRA 40: 1244 (1960). (2252)

Cotton varieties spun in 1958 in the cotton mills of the Rumanian People's Republic are analyzed as regards their physicochemical properties, and the best varieties and types for obtaining yarns of improved quality are pointed out.

ROVANA: DOW'S NEW SARAN MICRO-TAPE. N. W. Abernethy (Dow Chem. Co.). Modern Textiles Mag. 41: 99-102 (May 1960). (2253)

Rovana is a microporous saran micro-tape which can be woven directly into fabrics. Properties, processing, and uses are explained.

CROSS-LINKED CELLULOSIC FIBERS. Courtaulds Inc. Textile Recorder 77: 75-76 (May 1960). (2254)

Although Corval and Topel resemble other fibers in the cellulosic group in many ways, they have properties differing distinctly from those of viscose rayon and cotton and are expected to have a greatly extended range of use. Tables.

STRUCTURAL HETEROGENEITY IN VISCOSE FIBERS. A. Nakai. Bull. Chem. Soc. Japan 32: 1037-1043 (1959). Through BCIRA 40: 1250 (1960). (2255)

Standard viscose rayon has 4 layers, 2 of skin and 2 of core; Toramomen-type rayon has 2, corresponding to the skin of standard rayon.

SHRINKING CONDITIONS OF POLYESTER FIBERS AND FILAMENTS. H. Ludewig, H. Ramm, W. Roth, and E. Hannes. Faserforsch. u. Textiltech. 11, No. 1: 15-21 (1960). In German. Through BCIRA 40: 1335 (1960). (2256)

It was found that shrinkage of stretched unfixed materials decreases with increasing drawing ratio and, at the same drawing ratio, with increasing temperature. The presence of water during the drawing process also affects the shrinkage. Experiments were carried out to establish optimum setting conditions, and it was found that it is possible to produce shrinkage-free fibers for special end-uses by drawing them to a lesser extent or by cold-drawing in the dry or wet state.

CHANGES IN BIREFRINGENCE AS A CRITERION OF STRUCTURE DEVELOPMENT DURING HEATING AND RECOOLING OF HIGH POLYMER FIBERS. PART 2. POLYAMIDE FIBERS. A. Möhring and G. Duwe. Faserforsch. u. Textiltech. 11, No. 1: 7-15 (1960). In German. Through BCIRA 40: 1334 (1960). (2257)

Changes in birefringence during heating and recooling of Perlon fibers were studied on heating curves of the fibers (undrawn and drawn to different degrees, from various sources, in the original state and after heat treatment at various temperatures). The results are discussed and presented graphically. A certain similarity is found between the behavior of Perlon and the previously examined triacetylcellulose.

YARN PRODUCTION B

PLATT-LUMMUS COTTON GINNING EQUIPMENT. Platt Bros. Ltd. Platts Bull. 9, No. 10: 316-321 (1959). (2258)

CURVED BAR CREEL TOW GUIDE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1960. 3 p. Bull. X-118 (replaces Bull. X-22 and X-23). Free. (2259)

The fabrication and operation of a curved bar creel tow guide applicable to the Turbo Stapler and Pacific Converter operations is presented.

EFFECT OF COARSE FIBERS DURING SPINNING OF VISCOSE RAYON STAPLE FIBERS IN THE COTTON SPINNING MILL. L. Rudolph. Z. ges. Textil-Ind. 62, No. 3: 76-79 (1960). In German. Through BCIRA 40: 1182 (1960). (2260)

The effect of coarse fibers on the strength, regularity and processing properties of fine yarns (Nm 85) is examined, and it is shown that different values as regards breaking length, elongation, loop strength, and breakage frequency can be expected in a fine yarn consisting of fine fibers with varying proportions of added coarse fibers. The presence of 0.3% and more coarse fibers in the flock (from Nm 300 and above) is of definite disadvantage.

ABBREVIATED SPINNING, WITH SPECIAL REFERENCE TO COTTON. RESULTS OBTAINED. NEW IDEAS. Bull. Inst. Textile France No. 84: 79-96 (Oct. 1959). In French. Through BCIRA 40: 1181 (1960). (2261)

Processes permitting abbreviation of the classical methods and new projects (some of which are still in the experimental stage) are reviewed. 43 refs.

CHOICE OF STAPLE LENGTH FOR MANMADE FIBERS PROCESSED ON COTTON SPINNING SYSTEMS. M. N. Timofeev. Tekhnol. Tekstil. Prom. No. 6 (13): 34-41 (1959). In Russian. Through BCIRA 40: 1183 (1960). (2262)

For the production of medium-count yarn on existing cotton spinning machines, the optimum staple length was found to range between 37 and 38 mm. The present study confirmed the previous theoretically derived assumption that the fibers are more evenly distributed during drafting if their staple length varies, and the yarn shows a lower irregularity than that in which the fibers have the same length.

REVIEW OF SPINNING IMPROVEMENTS. R. M. Jones (Saco-Lowell Shops). Textile Bull. 86: 124-132 (May 1960). (2263)

The author discusses developments in spinning up to the present time plus some of Saco-Lowell's new developments.

COTTON FIBER QUALITY AND MILL OPERATION. J. M. Little, S. C. Mayne, Jr., and E. E. Berkley (Anderson, Clayton & Co.). Textile Bull. 86: 99-102 (May 1960). (2264)

Research findings on fiber damage occurring in harvesting, ginning, and mill processing are presented. It is recommended on the basis of these findings that all mills reduce the number of mechanical treatments to an absolute minimum, particularly when using high grade cotton. Graphs, 3 refs.

PREPARATION OF COURTELLE TOPS SUITABLE FOR WORSTED MACHINERY. W. Hardacre (Courtaulds Ltd). Textile Mfr. 86: 138-143 (Apr. 1960). (2265)

This paper is concerned mainly with the production of standard and high-bulk tops via the worsted system. Reviewing the converters employed, it is pointed out that the Courtaulds-design, Pacific, and Rieter machines produce a sliver superior to any from a worsted or roller and clearer card. Photo, diagrs, graphs, tables.

CHOOSING THE BEST DRAFT. PART 1. MEDIUM STAPLE COTTONS. J. Simpson, A. T. Callegan, and C. L. Sens (So. Reg. Research Lab.). Textile Inds. 124: 209-227 (May 1960). (2266)

Results of a study made to determine the optimum draft allocations, from picking through spinning, required to obtain the best possible yarn uniformity, strength, and elongation are presented. Graphs, tables, 13 refs.

NEP FORMATION AND CONTROL IN SPINNING. H. Rehman. Pakistan Cottons 4: 153-160 (Jan. 1960). (2267)

A review with 18 references.

PROCESSING BLENDS OF DACRON POLYESTER STAPLE AND COTTON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1960. 13 p. Bull. D-119 (replaces Bull. D-66). Free. (2268)

EFFECTS OF BLENDING COTTONS BY FINENESS ON COTTON COSTS, PROCESSING EFFICIENCY, AND YARN QUALITY. S. C. Mayne, Jr., W. T. Mathews, Jr., and E. E. Berkley (ACCO Fiber & Spinning Lab.). Textile Research J. 30: 268-276 (Apr. 1960). (2269)

Recommendations for blending fibers varying widely in micronaire readings are given. Graphs, tables, 14 refs.

NEW REGULATIONS ON THE PREVENTION OF SELF-IGNITION OF LUBRICATED FIBERS (LUBRICANT REGULATION). M. Kehren. Melliand Textilber. 41, No. 3: 352-357 (1960). In German. Through BCIRA 40: 1401 (1960). (2270)

The new German regulations in force since the 1st February 1960 are reprinted, and the main alterations as compared with the old specification are briefly reviewed.

Opening, picking, fiber preparation B1

CLEANING AND OILING SCHEDULE FOR COTTON OPENERS AND PICKERS. Textile World 110: 246 (May 1960). (2271)

OPENING AND CLEANING POTENTIALITIES OF TAKERIN TYPE BEATER AS COMPARED WITH THE CONVENTIONAL MACHINES. S. M. Nawaz and M. Ahmed. Pakistan Inst. of Cotton Research & Technol. Technol. Bull. Ser. B, No. 1: 1-41 (July 1959). (2272)

This study was carried out on six cottons each processed through six treatments comprising a new takerin type beater and some conventional machines. Photos, diagr, graphs, tables, 10 refs.

Carding and combing B2

CLOTHING WOOLEN CARDS. C. J. Williams. Textile Inds. 124: 186-191, 292-298 (May 1960). (2273)

Recommendations are given on when and how to replace clothing, and sources of clothing abuse and developments in clothing are discussed. Photos, diagr.

3 OVER 4 DRAFTING FOR RIBBON LAP MACHINES. Platt Bros. Ltd. Platts Bull. 9, No. 10: 322-329 (1959). (2274)

The advantages of 3 over 4 drafting in a sliver lap/ribbon lap system are cited. Mill results with this system versus ordinary sliver lap/ribbon lap preparation in conjunction with Nasmith and Hartford combers are included. Photos, diagrs, graphs, tables.

RESEARCH ON STRIPPING IN WOOLEN CARDING. J. G. Shaw, M. A. U. Khan, and A. Brearley. Textile Recorder 77: 66-68 (May 1960). (2275)

The problems of variation in slubbing weights as a result of stripping are discussed, and a simple method by which such variations can be largely avoided is indicated. Graphs, 6 refs.

FOUR KEY POINTS FOR CONTROLLING CARDED WOOL QUALITY. W. J. Crofts. Textile World 110: 48-49 (May 1960). (2276)

Trouble areas in wool carding leading to uneven roving are: tapes that are thin and narrow, waviness of the web from the tape doffer, malfunctioning fancies, and uneven broad-table feed. Methods of controlling them are discussed.

FACTORS AFFECTING THE QUALITATIVE AND QUANTITATIVE COMPOSITION OF STRIPS, AND MEANS FOR PROLONGING THE INTERVALS BETWEEN CARD STRIPPING. F. G. Piralishvili. Tekhnol. Tekstil. Prom. No. 6 (13): 42-53 (1959). In Russian. Through BCIRA 40: 1173 (1960). (2277)

Experiments showed that the composition of the blend and the intensity of the clearer roller action on the fibrous material can be regarded as the most important factors affecting the strip formation on roller cards, and that the performance of semi-rigid clearer rollers is more effective than that of the usual ones. Careful preparation of the components to be mixed and the improved action of the clearer roller makes it possible to increase the stripping intervals, and consequently, the productivity of the machine. The quantity of waste is thereby considerably reduced.

BALL AND BANK FEED FOR WOOLEN CARDS. J. A. B. Mitchell. Textile Mfr. 86: 133-135 (Apr. 1960). (2278)

The ball and bank feed is an intermittent type of intermediate feed consisting of two parts: the balling machine located close up to the face of the delivery doffer, and the bank or creel extending the full width of the card and standing a few feet from the feed rollers of the machine. Its operation and features are described. Photos, diagrs, graphs.

MEASUREMENT OF COMBING EFFICIENCY. J. Simpson and G. F. Ruppenicker, Jr. (So. Reg. Research Lab.). Textile Bull. 86: 103-106 (May 1960). (2279)

A method of measuring combing and detaching efficiencies is outlined. The combing and detaching efficiencies are based on the idea of dividing the percentage of noil fibers and sliver fibers in certain length groups by the percentage of fibers that should be in these length groups for perfect combing, then weighting according to length group and expressing the resultant as a percentage. Graph, tables, 5 refs.

EXPERIMENTS WITH FLATS HAVING FLAT WIRES AND HOOKS ON CARDS WITH ALL-STEEL AND HOOK CLOTHING. U. Schulte. Melliand Textilber. 41, No. 3: 260-263 (1960). In German. Through BCIRA 40: 1324 (1960). (2280)

In order to ascertain the best clothing/flat combination for obtaining the best card sliver quality and the optimum quality and quantity of waste, experiments were carried out with 4 combinations on cotton and 40 mm Duraflox (1.3 den.) fibers. It was found that the all-steel clothing in conjunction with the flat-wire flat clothing gives the most favorable results both as regards card sliver quality and quality and quantity of waste.

IMPROVEMENT OF PRELIMINARY CARDING SYSTEM ON CLASSICAL COTTON CARDS. I. Varga. Industria Textila 11, No. 1: 8-11 (1960). In Rumanian. Through BCIRA 40: 1322 (1960). (2281)

Modernization of the Howard & Bullough and Unirea cotton cards according to the Soviet Vulcan card is described. The characteristic feature is the installation of a working and stripping roller under the takerin. This is claimed to increase the production by 35-40%.

MODERNIZATION OF COTTON WOOL CARDING MACHINE ChVM-600. I. M. Khatenever. Tekstil. Prom. 19, No. 12: 57-59 (1959). In Russian. Through BCIRA 40: 1174 (1960). (2282)

STUDIES ON THE FRICTOR. PART 3. K. Mihira and H. Takada. J. Textile Machy. Soc. Japan 13, No. 1: 13-23 (1960). In Japanese (English summary). Through BCIRA 40: 1325 (1960). (2283)

The Frictor, an automatic controller of sliver irregularity, was applied to an open loop for a card, and its performance was analyzed theoretically and experimentally.

C.S.I.R.O. COMB CONTROL UNIT. D. S. Taylor. J. Textile Inst. 51: T139-T146 (Apr. 1960). (2284)

The production rate of a Noble comb is very sensitive to changes in setover, but relatively insensitive to changes in tear taking place when the setover is kept constant. The large changes in production rate normally observed in mill practice result from fluctuations in setover. A comb control unit has been developed which maintains the average setover constant within close limits and is now in commercial use. Photos, diagr, graphs, table, 2 refs.

Drawing and roving B3

REGULATING SYSTEMS FOR THE EQUALIZATION OF SLIVERS. PART 14. USE OF THE NEW CONTROL METHOD IN PRACTICE. W. Wegener and H. Bechlenberg. Textil-Praxis 15, No. 2: 136-140 (1960). In German. Through BCIRA 40: 1176 (1960). (2285)

The design of a control device for use in the cotton spinning plant is described, with special reference to a drawing system with two deliveries and two equalization devices, the constant mean velocity ratio between the main driving motor and the two servo-motors and any undesirable effects on the value of the control quantity being thereby taken into account.

IMPROVEMENT OF DRAFTING SYSTEM PERFORMANCE ON THE SPEED FRAME RT-132. D. M. Kofman, V. V. Lashin, and S. M. Mikhailov. Tekstil. Prom. 19, No. 12: 60-62 (1959). In Russian. Through BCIRA 40: 1178 (1960). (2286)

Experiments have shown that the introduction of a 4-roller drafting system with gradually increasing draft (with a total draft of 18 and a constant preliminary draft of 1.33) decreases the yarn irregularity and improves the yarn strength and breaking length. The physico-mechanical properties obtained are given in a table.

EQUATIONS FOR THE ATTENUATION CURVE OBTAINED DURING IRREGULAR SLIVER DRAFTING. A. G. Sevost'yanov. Tekhnol. Tekstil. Prom. No. 6(13): 54-62 (1959). In Russian. Through BCIRA 40: 1177 (1960). (2287)

Equations are given for calculating the number of fibers moving at velocities v_1 and v_2, and the total number of fibers in any sliver cross-section in the drafting zone. From these calculations, it is possible to plot the attenuation curve for any conditions of the drafting process.

PRINCIPLES OF ROLLER DRAFTING. A. E. De Barr (Brit. Cotton Ind. Research Assoc.). Textile Merc. 142: 524-529 (Apr. 15, 1960). (2288)

The fundamental principle of roller drafting, the conditions which must be fulfilled for drafting to take place, and the factors affecting sliver uniformity during drafting are discussed. Diagr, graphs.

FIBER MOTION IN ROLLER AND APRON DRAFTING. J. McVittie and A. E. De Barr (Shirley Inst.). J. Textile Inst. 51: T147-T156 (Apr. 1960). (2289)

The motion of floating fibers in roller and apron drafting has been investigated using an apparatus which permits the direct observation of marked fibers as they pass through the drafting zone at reduced speed. A description of the apparatus is given, together with a summary of the results. The experiments show that at some point after being released by the back rollers the fibers are alternately accelerated and decelerated until they finally attain front-roller speed. The point at which this motion commences varies from fiber to fiber, but the average velocity during the ensuing motion is remarkably constant and is practically independent of fiber length, draft, and of the type of drafting system. The experiments also confirm that apron drafting gives greater control of the floating fibers than roller drafting. Diagrs, graphs, table, 12 refs.

MODERN DRAFTING TECHNIQUE. A. A. Hayes (Casablancas High Draft Co. Ltd). Textile Weekly 60(1): 935-939, 959 (Apr. 15, 1960). (2290)

The features of the present Casablancas high draft system and the factors leading to their development are discussed. Diagr.

ADVANTAGES OF PNEUMATIC FIBER REMOVAL AT THE ROVING FRAME. G. Rentzsch. Textil-Praxis (English ed.) No. 1: 2-4 (Mar. 1960). (2291)

The application of pneumatic exhaust plants on roving processing machines results in a 5 to 30% reduction of idle times required for cleaning the lower clearing brushes. Photos, diagr.

EFFECT OF DRAFTING. H. Sneyd (Courtaulds Ltd). Textile Merc. 142: 612-616, 621 (May 6, 1960). (2292)

The direct effect of drafting on yarn irregularity, as well as the interrelation of drafting and doubling and the effect of the particular fibers used in processing, is discussed. The drafts and doublings involved on the cotton, worsted, and flax systems under consideration in this paper, comparing normal and high drafts, are outlined.

Spinning, winding, twisting B4

EXAMINATION OF WEAR RESISTANT TRAVELERS ON HIGH SPEED SPINNING MACHINES WITH HIGH LINEAR SPEEDS. L. I. Trakovskaya, M. I. Ivanova, and M. I. Borisova. Tekstil. Prom. No. 10: 39-42 (1959). In Russian. Through BCIRA 40: 1327 (1960). (2293)

The authors recommend the use of C-shaped travelers with the smallest possible curvature for cotton spinning machines with high linear speeds (up to 40 m/sec).

SPINDLE LUBRICATION DEVICE. Maschinenfabrik Friedrich Reichert. Textil-Praxis (English ed.) No. 1: 6-7 (Mar. 1960). (2294)

The Reichert spindle servicing device consists of a chassis and two covered oil tanks, one for flushing oil, the other for fresh oil. In addition there is a tiltable tank with cover that can also be used for flushing oil for the spindle inserts.

WINDING MECHANISMS OF SPINNING AND TWISTING FRAMES. Y. G. Frangos. Tekstil. Prom. 19, No. 12: 29-35 (1959). In Russian. Through BCIRA 40: 1180 (1960). (2295)

The disadvantages of winding mechanisms on ring spinning and ring twisting machines, and their effects, are critically discussed, and recommendations made for their improvement.

GAGING DEVICE FOR MEASURING THE PRESSURE OF TOP ROLL WEIGHTING. O. König. Textil-Praxis (English ed.) No. 1: 1-2 (Mar. 1960). (2296)

A device is described, by means of which the top roll weighting pressure, the spring constant of the weighting spring, the friction value of the top roll suspension, and the height adjustment of weighting arms can be efficiently measured. Photos.

RATIONALIZATION BY DOUBLE-TWIST TWISTING. J. Schneider. Melliand Textilber. 41, No. 3: 257-260 (1960). In German. Through BCIRA 40: 1331 (1960). (2297)

A discussion of the applicability and advantages of the double-twist twisting system is followed by a detailed description of the double-twisting machine of the Berliner Textilmaschinengesellschaft, which can be used for the economic production of all yarns, and which represents the first step to a semi-automatic twisting machine for smooth yarns.

HOWA'S HIGH-SPEED SPINNING FRAMES. H. Yagami. J. Textile Machy. Soc. Japan 13, No. 1: 34-38 (1960). In Japanese. Through BCIRA 40: 1326 (1960). (2298)

SOME PRELIMINARY EXPERIMENTS WITH DOUBLED YARNS. Srinagabhushana, S. Srikantiah, and B. Basavaraj (SKSJ Technological Inst., Bangalore). Textile Dig. 20: 165-169 (Oct.-Dec. 1959). (2299)

A preliminary investigation was made to find out the effect of doubling with different twists both Z and S, and under three conditions, dry, wet, and wet with wetting agent (0.5% Teepal). The yarns were tested for lea strength, single thread strength and extensibility, twist, and appearance. The results showed that wet doubling with a wetting agent gave yarns with better strength and appearance for the same doubling twists. Graphs, tables.

RING SPINDLE DEVELOPMENTS. W. Frenzel. Textil-Praxis 15, No. 2: 118-126 (1960). In German. Through BCIRA 40: 1179 (1960). (2300)

Experiments are reported which were carried out with a balloonless-operating spindle (abstr. 1631/59 and 2004/59) and with a suspended ring spindle (abstr. 904/60). The advantages of the two systems are discussed.

HUNGARIAN LABORATORY RING SPINNING MACHINE. B. Gangli. Melliand 41, No. 2: 60, 62 (1960). (2301)

RING CLEANING TONGS. OTRA-Ringläufer GmbH. Textil-Praxis (English ed.) No. 1: 5-6 (Mar. 1960). (2302)

MODERNIZATION OF THE DOUBLER-WINDER T-150. O. M. Grimze. Tekstil. Prom. 19, No. 12: 64-67 (1959). In Russian. Through BCIRA 40: 1184 (1960). (2303)

Improved performance has been achieved by a fundamental change of the stop motion mechanism. The doubling rate is claimed to be increased from 263 m/min to 380 m/min and more. The preliminary results indicate the possibility of doubling yarn of all counts 2 to 3-fold, but various technological parameters, e.g. permissible thread tension, optimum velocity, etc. have still to be investigated.

Yarns B5

BASIC TECHNOLOGICAL PROPERTIES OF BLENDS FROM COTTON AND COARSE VISCOSE RAYON STAPLE FIBER. G. A. Terent'ev. Tekhnol. Tekstil. Prom. No. 6(13): 63-71 (1959). In Russian. Through BCIRA 40: 1261 (1960). (2304)

The characteristics of cotton and coarse viscose staple fibers, determination of fiber-length distribution in blends, surface friction and fiber cohesion in the blends, and the strength of yarn and fabrics from cotton dyed in the mass, and from low-count viscose staple fiber are discussed. Experimental results are given in tables and graphs.

CAUSES OF LUSTER DIFFERENCES IN VISCOSE YARN. A. I. Ryabinina and L. N. Panova. Khim. Volok. No. 5: 73-74 (1959). In Russian. Through BCIRA 40: 1260 (1960). (2305)

The effects of surface structure, and the presence of iron, sulfur, lubricants (irregularly distributed) and of other deposits are discussed, and preventive measures are recommended.

TRANSMISSION OF TRANSVERSE STRESSES IN FIBER ASSEMBLIES. J. W. S. Hearle and H. M. A. E. El-Behery (Manchester Coll. Sci. Technol.). J. Textile Inst. 51: T164-T171 (Apr. 1960). (2306)

The paper reports a study of the transverse pressure exerted horizontally by a specimen held under a vertical applied load in a rectangular trough. The materials tested are cotton and Fibro sliver, Fibro roving, nylon yarn and monofilaments, and metal wires and rods. The results are discussed in relation to the forces in a twisted yarn. Photo, diagrs, graphs, 2 refs.

NYLON YARN PACKAGING. G. A. Clough and D. W. Smith. Textile Weekly 60(1): 998, 1000 (Apr. 22, 1960). (2307)

Package size, takeoff properties, and types of packages in use are discussed.

TWIST-SETTING DACRON FILAMENT YARNS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1960. 3 p. Bull. D-120 (replaces Bull. D-83). Free. (2308)

NYLON YARN PACKAGING. G. A. Clough and D. W. Smith. Textile Weekly 60(1): 1079, 1081 (Apr. 29, 1960). (2309)

Package hardness and yarn lubrication as they affect knitting are discussed. Photo, graphs.

SAABA TEXTURED YARN. C. J. Dudzik (Leesona Corp.). Textile Inds. 124: 192-193, 298, 300 (May 1960). (2310)

The production of Saaba yarn by the secondary processing of Superloft or Fluflon stretch yarn and the resultant yarn properties are described. Diagrs.

PROGRESS REPORT ON MODIFIED FILAMENT TYPES IN THE KNITTING FIELD. Hosiery Trade J. 67: 105-106 (Apr. 1960). (2311)

This is the first of a bimonthly series on the latest developments and trends in stretch, bulk, and textured yarns.

FABRIC PRODUCTION C

STUDIES AND INVESTIGATIONS INTO THE USE OF SYNTHETIC YARN IN WEAVING PLANTS. J. Schneider. Reyon Zellwolle Chemiefasern 9, No. 8: 522-525; No. 9: 603-605; No. 10: 667-669; No. 12: 792-801 (1959); 10, No. 1: 34-40 (1960). In German. Through BCIRA 40: 1341 (1960). (2312)

Publications dealing with processing of polyamides (Perlon and nylon) are reviewed, with special reference to the yarn-tension conditions in winding, sizing, warping, beaming, and weaving, factors affecting them, tension measurements, and the occurrence and elimination, as well as measurement, of electrostatic charges. Other problems arising from the use of synthetic yarns during sizing and weaving are also discussed. Other fibers, e.g. polyester fibers, are mentioned only occasionally because of their different properties, but the derived conclusions are, in general, applicable to all synthetic fibers. Only studies and investigations are pointed out which can be utilized in practice immediately.

ELECTRONIC MEASUREMENT AND AUTOMATIC ELIMINATION OF YARN SLUBS. H. J. D. Vogt. Melliand 41, No. 2: 64-72 (1960). (2313)

A brief outline of the problems involved in the clearing of yarns is followed by a discussion of the principle, operation, and applications of the Qualitex electronic thread clearer.

ELECTRONIC TENSION ANALYZERS. B. Bailey. Textile World 110: 38-39 (May 1960). (2314)

The use of recording tensiometers for constant control of spooling, quilling, warping, slashing, and weaving is discussed.

INTERACTION OF TEXTILE STRUCTURES AND HIGH SPEED TEXTILE PROCESSES. H. M. Morgan (Fabric Research Labs.). J. Eng. Ind. 82: 154-158 (May 1960). (2315)

A study has been made of the interaction which takes place in certain high-speed textile processes at points of machine fiber contact. The specific actions of weaving and sewing have been analyzed. Diagrs, 10 refs.

FROM THE OLD FREE GUILD STRAW BRAIDING BY HAND TO THE MODERN HAT PLAITING INDUSTRY. G. Rodel. SVF Fachorgan Textilveredlung 14, No. 9: 618-631 (1959). In German. Through BCIRA 40: 1347 (1960). (2316)

The history and development of braiding machines are discussed.

Warping, slashing, yarn preparation C1

FAIR WAGES AND PRECALCULATION IN WARPING. H. Rotter. Melliand Textilber. 41, No. 3: 293-295 (1960). In German. Through BCIRA 40: 1340 (1960). (2317)

The calculation system described is based on the time values for the working stages involved in warping, calculated in relation to an efficiency rating of 100.

PREPARATION OF WARP FOR KNOTTING IN TERRY WEAVING. S. Scharf. Textil-Praxis 15, No. 2: 148-150 (1960). In German. Through BCIRA 40: 1194 (1960). (2318)

Various points to be observed during preparation of the warp are discussed, with reference to various knotting systems and the leasing of semi- and fully-automatic looms.

CHART FOR ESTIMATING YARN REMAINING ON DU PONT NYLON RASCHEL BEAMS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Apr. 1960. 2 p. Bull. N-127. Free. (2319)

ELECTRONIC YARN CLEARING: THE LEESONA HOLT YARNSPEC. Wool Record 96: 1154 (Dec. 3, 1959). (2320)

The Leesona Holt Yarnspec works on the principle of the photoelectric eye. It will distinguish a short-length fault from a fault of a length which necessitates removal. The device will not cut for a knot in the yarn and allows minor neps and similar yarn faults to pass.

SLASHER SIZING WARPS OF DU PONT ACELE ACETATE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1960. 3 p. Bull. A-42 (replaces Bull. A-32). Free. (2321)

Representative size formulas for conventional and loom-finished fabrics are included.

INCREASING YARN OUTPUT AT THE SLASHER. Textile World 110: 252 (May 1960). (2322)

A rebuilt slasher and improved handling methods of doffing loom yarn beams and creeling section beams are briefly described. Diagr.

FAULTY SETTING OF THE CONE WARPING MACHINE. H. Wölfel. Textil-Praxis (English ed.) No. 1: 26-29 (Mar. 1960). (2323)

Incorrect setting in dependence of warping length is discussed to show the importance, for long rayon warps, of careful adjustment of the cone angle, forward movement of the bracket, and sheet width. A brief description is also given of a method for accurate determination of the sheet width at a diagonally-arranged reed.

AUTOMATIC WARP TYING MACHINE. M. V. Rangrajan. Textile Dig. 20: 177-185 (Oct.-Dec. 1959). (2324)

This paper describes the working of the automatic warp tying machine, its advantages, and economies. Diagrs.

SHORTENING THE WARP PREPARATION PROCESS. S. G. Goritskii. Tekhnol. Tekstil. Prom. No. 6 (13): 86-90 (1959). In Russian. Through BCIRA 40: 1193 (1960). (2325)

Experiments were carried out to ascertain the effect of omitting the rewinding of warp yarn on warp breakage frequency during weaving. The rewinding of yarn from spinning bobbins was combined with the process of warping on to the warp beam at a velocity of 100 m/min. It was found that this process reduces the number of breakages from 84-108 to 12 per 10^6m of the single thread so that, on the loom, the warp has only a minimum number of knots.

FULLY AUTOMATIC PIRN CLEANING. K. Meissner. Spinner u. Weber 78, No. 2: 35-38 (1960). In German. Through BCIRA 40: 1339 (1960). (2326)

The development of pirn stripping is reviewed, with special reference to the fully automatic pirn-stripping and pirn-feeding machine.

DUPLEX DUST REMOVAL INSTALLATION. Spinner u. Weber 78, No. 2: 22-23 (1960). In German. Through BCIRA 40: 1338 (1960). (2327)

The installation described (W. Schlafhorst & Co., Gladbach) can be used especially on the cheese-winding machine. Technical details and mechanism of the installation are explained.

UNIFIL LOOM WINDERS. H. Marsden. Melliand 41, No. 2: 80-88 (1960). (2328)

The article reviews results of mill operation of Unifil winders in various countries under different working conditions. Photos.

AUTOMATION OF WARP WINDING BY MEANS OF MULLER AUTOMATIC CROSS WINDING MACHINES. J. Schneider. Melliand 41, No. 2: 72-78 (1960). (2329)

Features of the machine are noted, and figures on the productivity, costs, and operational speed of the machine are given. Photos.

AUTOMATIC MULTIPLE-END WINDER FOR THE RUBBER AND WIRE COVERING INDUSTRY. Cezoma Textile Machy. Ltd. Textile Merc. 142: 623 (May 6, 1960). (2330)

Weaving C2

SHUTTLE BRAKING AND REDUCTION OF PICKER CONSUMPTION. M. Macovei. Industria Textila 11, No. 1: 11-18 (1960). In Rumanian. Through BCIRA 40: 1345 (1960). (2331)

The new shuttle-braking system, described and compared with the classical method, is based on the possibility of releasing automatically the tension cover at the moment of picking by the forces of inertia produced by the tangential acceleration of the lay.

THEORY AND PRACTICE OF PASSING WARP ENDS. H. Emmrich. Textil-Praxis (English ed.) No. 1: 13-16 (Mar. 1960). (2332)

The practicality of various methods of drawing-in is examined. Diagrs.

DEVICE FOR THE PREVENTION OF FAULTY STARTING PLACES IN NARROW FABRICS. E. Peuster. Melliand 41, No. 2: 106, 108 (1960). (2333)

A device which automatically corrects the shift of the beatup place during weaving is described. Diagr.

WIRA FULL-WIDTH TEMPLE. Wool Inds. Research Assoc. Wool Record 97: 1053-1056 (Apr. 22, 1960). (2334)

The cloth is held firmly across its whole width close to the fell, allowing reduction in warp yarn tension at beatup. Photos.

RELATIONS BETWEEN SHUTTLE MOVEMENT AND PARAMETERS OF THE PICKING MECHANISM. M. Jederán. Periodica Polytechnica (Eng.) 4, No. 1: 83-103 (1960). (2335)

Picking mechanisms, taking their masses into account, were analyzed from the viewpoint of a compound sinusoidal movement. Effects of loom speed, dimensions of the picking mechanism, and weight and checking of the shuttle were considered. From the results obtained, conclusions may be drawn as to the effect of the changes in the parameters on the final velocity of the shuttle and on the development of the stresses imposed on the picking mechanism. Diagrs, graphs, 3 refs.

DOUBLE REEDS FOR TERRY WEAVING. S. Scharf. Textil-Praxis (English ed.) No. 1: 17-18 (Mar. 1960). (2336)

The advantages of using double reeds in terry weaving are enumerated, with special reference to the elimination of reed marks.

MAS1 SPOOL AXMINSTER SETTING FRAME. Platt Bros. Ltd. Platts Bull. 9, No. 10: 330-339 (1959). (2337)

Features and operation are described in detail. Photos, diagrs.

ROLLER TYPE WARP LETOFF APPARATUS. PART 1. F. Kondo, H. Kamogawa, and Y. Hatakeyama. J. Textile Machy. Soc. Japan 13, No. 1: 28-33 (1960). In Japanese (English summary). Through BCIRA 40: 1346 (1960). (2338)

The statics of the apparatus have been analyzed, and the static friction of the warp on or between rubber rollers has been studied experimentally; it is nearly twice as great on as between the two rollers. Three rollers are sufficient to hold warps but the power to do this is increased by increasing the eccentricity of the second roller.

AUTOMATIC LOOM FOR THE PRODUCTION OF VARYING FABRIC TYPES. A. Gasser. Textil-Praxis (English ed.) No. 1: 8-12 (Mar. 1960). (2339)

A new (Rüti) drop box loom for the production of various types of fashion fabrics is described.

LOOMFIXER AND HIS JOB. PART 18. WARP STOP MOTION. W. Westbrook. Textile Bull. 86: 117-118 (May 1960). (2340)

LOW-BUILT ASTRA HIGH SPEED LOOM MODEL AMN. W. Rossborg. Melliand 41, No. 2: 98-102 (1960). (2341)

The loom is described. The standard model is equipped with a drop box shuttle-changing motion operating with 2/4 boxes and a single-lift, closed-shed, reverse motion dobby.

GAGES IN DRAPER LOOM MAINTENANCE. PART 4. INFLUENCE OF BAD ALIGNMENT ON SHUTTLE WEAR. Textile Inds. 124: 194-194C (May 1960). (2342)

Techniques of shuttle race replacement and consequent aligning procedures are described. Photos, diagr.

GUNNE HIGH SPEED AUTOMATIC CHECK LOOMS. M. Michelitsch. Melliand 41, No. 2: 89-98 (1960). (2343)

Features and operation of the loom (Webstuhlfabrik Günne) are described. The loom can be used for the manufacture of plain colored, striped or checked fabrics in cotton, linen, staple fiber, and rayon. It can be combined with a dobby or with a jacquard machine without any difficulty. Photos, diagrs.

Knitting C3

PAPER YARNS AND THEIR USE IN THE KNITTING INDUSTRY. V. J. Lombardi (Scott & Williams Inc.). Knitted Outerwear Times 29: 17, 34 (May 9, 1960). (2344)

IMPROVED METHODS OF PANTOGRAPH MARKING ON WARP-KNITTED STOCKINGS. R. Mount. Hosiery Trade J. 67: 107, 124 (May 1960). (2345)

Methods of obtaining clear and consistently marked stocking outlines drawn onto the fabric before it leaves the knitting machine are described. Diagrs.

DEVELOPMENTS IN STOCKING MANUFACTURE. L. H. Colton (Coltex Ltd). Hosiery Trade J. 67: 84-88, 91 (May 1960). (2346)

This review of recent developments in the hosiery industry and the equipment employed is divided into three categories: full-fashioned hosiery, seamless hosiery, and warp knitted hosiery.

DIMENSIONAL STABILITY OF PLAIN-KNIT FABRICS. D L. Munden (Leeds Univ.). J. Textile Inst. 51: P200-P209 (Apr. 1960). (2347)

Study of the stable configuration of knitted fabrics in the dry- and wet-relaxed conditions has revealed a logical explanation of all aspects of shrinkage of knitted fabrics. In addition, the stable dimensions may be determined with accuracy from a knowledge of the length of yarn knitted into the stitch. With this knowledge, shrinkage becomes a predictable parameter, and fabrics may be accurately designed to produce garments of the required finished size. Photos, tables, 5 refs.

DESIGN POSSIBILITIES IN WARP KNITTING FABRICS. Textile Weekly 60(1): 680, 685 (Mar. 18, 1960); 990, 992 (Apr. 22, 1960). (2348)

The factors governing fabric variations in warp knitting are briefly noted.

KNITTED OUTERWEAR TIMES. 1960 YEARBOOK EDITION. 1960. 359 p. Available from Nat. Knitted Outerwear Assoc., 386 Park Ave. South, New York 16, N. Y. $2.50. (2349)

This yearbook presents an array of basic information gathered from the Knitted Outerwear Times of the previous twelve months, selected because of its enduring value and in some cases condensed in convenient form for handy reference. The survey of available equipment covers not only the American machinery offerings, but types and special features of foreign machines.

CIRCULAR GARMENT-LENGTH KNITTING MACHINES. E. Schulze. Melliand 41, No. 2: 114-122 (1960). (2350)

The general characteristics of garment length machines are noted, and the most important American, British, French, and German models are described. 33 refs.

WK-A ALTERNATE PROGRESSION METHOD FOR HALF-HOSE PATTERNING. W. Shewmake. Textile Inds. 124: 233-235, 300-302 (May 1960). (2351)

The new method increases pattern and color possibilities, sharpens pattern edges, and eliminates a majority of inside floats. The operation of the method is described. Photos.

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 67: 100-102 (May 1960). (2352)

The developments discussed include: Ultra Rapid double cylinder hosiery machine; Penitex yarn tension/stop motion for flat bar machines; Swiss positive feed device for half-hose machines; Pfaff ladder mending attachment; and interlock-pique knit structure. Photo, diagrs.

WARP KNITTED BANDAGES. F. N. F. Ltd. Textile Weekly 60(1): 997-998 (Apr. 22, 1960). (2353)

The advantages of warp knit bandages over conventional woven ones are cited.

Fabrics C4

IMPROVEMENT OF WATER-RESISTANT COTTON FABRICS. U. S. Agri. Research Serv., Washington 25, D. C. Aug. 1959. 62 p. ARS-72-9. (2354)

Contents: Methods for improvement of closing of fabrics by swelling, by C. F. Goldthwait and W. G. Sloan, p. 1-13; Evaluation of closing effects of swelling: fabrics made from treated yarns, by C. F. Goldthwait, A. L. Murphy, and W. G. Sloan, p. 14-25; Effects of maturity of cotton and of high pickage, by W. G. Sloan and C. F. Goldthwait, p. 26-38; Use of finer cottons and closer weaves: effects of finishing, by W. G. Sloan and C. F. Goldthwait, p. 39-49; Significance of swelling, by C. F. Goldthwait, E. M. Buras, Jr., and W. G. Sloan, p. 50-61; Literature cited, p. 62. 19 refs.

DESIGNING OF PILE FABRICS. CHAPTER 6. DOUBLE FACED CUT PILE. E. B. Berry. Textile Bull. 86: 120-123 (May 1960). (2355)

Two methods of weaving double faced cut pile fabrics are described. Diagrs.

SEWING THREAD AND NEEDLE IN THE MAKING-UP INDUSTRY. J. E. Palomas. Ingenieria Textil 26, No. 140: 383-390 (Sept./Oct. 1959). In Spanish. Through BCIRA 40: 1197 (1960). (2356)

Factors affecting the correct stitch formation in sewing machines are discussed, with reference to the type of needles and the characteristics of the sewing thread used. A table is given listing the numbers of needles corresponding to various thread thicknesses.

NEW NEEDLED PAPERMAKERS FELTS. J. E. Smith (Albany Felt Co.). Paper Trade J. 144: 50-51 (May 16, 1960). (2357)

Recent developments in felt needling and the operating advantages in improved water removal, finish, and life.

LABELING OF READY-MADE STREET DRESSES. P. Drake and M. A. Grimes. Texas Agri. Experiment Station, College Station, Texas. Nov. 1959. 15 p. Bull. 943. (2358)

This bulletin reports consumers' interest in and use of label information on ready-made street dresses, the availability of such information, and industry practices in the provision of labels.

LAMINATING KNIT YARDGOODS. F. Lesser (Reeves Bros. Inc.). Knitted Outerwear Times 29: 23, 38 (May 9, 1960). (2359)

HYPALON COATED NYLON HEAVY DUTY INDUSTRIAL FABRIC. Reeves Bros. Am. Textile Reptr. 74: 8, 29 (Apr. 28, 1960). (2360)

Applications and advantages are briefly noted.

DO'S AND DON'TS FOR FABRICATING LAMINATES. J. E. Martin. Modern Plastics 37: 116-124, 188-192 (Apr. 1960). (2361)

A report on successful current practices for cloth-, paper-, and glass-reinforced laminates, with special emphasis on proper use of tools.

FABRICATING TARPAULINS OF NEOPRENE COATED DU PONT NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Apr. 1960. 5 p. Bull. N-128 (replaces Bull. N-66). Free. (2362)

Discussion of methods for cementing, sewing seams, and repair of tarpaulins.

BEHAVIOR OF PLEATED STRIPS OF WOOL FABRIC IN AN EXTENSOMETER. H. W. Holdaway (CSIRO Wool Research Labs.). Textile Research J. 30: 296-304 (Apr. 1960). (2363)

Certain aspects of the elastico-mechanical behavior of pleated strips of worsted wool fabric have been examined using a specially constructed extensometer. On subjecting the pleat specimens to cycles of extension and retraction, the load-vs-extension characteristic settled down to a repeatable hysteresis loop after about eight cycles. The loop area being relatively small, a study was made of an equivalent hysteresis-free mean characteristic. This was found to indicate behavior which to the first order was that expected of a flat strip of linear-Hookean material having a fixed pleat angle at the midpoint. It should be possible to develop a relatively simple apparatus to examine pleat sharpness using the technique described here of taking successive superimposed flash photographs while extending the pleat specimen. Photos, diagrs, graphs, 3 refs.

CONTROL OF DELAMINATION IN NATURAL RUBBER BONDED NONWOVEN FABRICS. E. G. Pole. Textile Mfr. 86: 146-148 (Apr. 1960). (2364)

Delamination occurs because the latex particles are too small to be trapped in the fibrous structure and are carried to the surface by the movement of water during the drying process. A method of preventing migration of the latex particles is by the use of a gelling agent. In general, they may be divided into two classes: external gelling agents, and internal gelling agents. Since internal gelling agents are likely to be more easily applied in practice, the article is devoted to their possible use in the production of natural rubber-bonded fabrics. Photos, diagrs, tables, 3 refs.

FACTORS AFFECTING THE PERFORMANCE IN USE OF COTTON FABRICS. E. Pollitt (Brit. Cotton Ind. Research Assoc.). Textile Weekly 59(2): 583-588 (Sept. 25, 1959). (2365)

Appearance, stability and durability, influence of finishing, and blending with manmade fibers are discussed. The increased use of manmade fibers has influenced the demand for cotton, and the paper discusses whether more variety in cotton would help it to retain its present position and possibly to regain its former status for uses taken over by manmade fibers.

SEWING OF UPHOLSTERY FABRICS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. May 1960. 6 p. Bull. X-119 (replaces Bull. CSB-N-8). Free. (2366)

HUMAN BODY AS AN INCONSTANT HEAT SOURCE AND ITS RELATION TO CLOTHES INSULATION. PART 1. DESCRIPTIVE MODELS OF THE HEAT SOURCE. A. S. Iberall (Rand Develop. Corp.). Am. Soc. of Mechanical Engrs., 29 W. 39 St., New York 18, N. Y. 1959. 9 p. ASME paper no. 59-IRD-7. 80¢. (2367)

HUMAN BODY AS AN INCONSTANT HEAT SOURCE AND ITS RELATION TO CLOTHES INSULATION. PART 2. EXPERIMENTAL INVESTIGATION INTO DYNAMICS OF THE SOURCE. A. S. Iberall (Rand Develop. Corp.). Am. Soc. of Mechanical Engrs., 29 W. 39 St., New York 18, N. Y. 1959. 15 p. ASME paper no. 59-IRD-8. 80¢. (2368)

AVOIDING DEFECTS IN WOVEN FILAMENT FABRICS. PART 1. A. Chadwick (Brit. Rayon Research Assoc.). Textile Weekly 60(1): 1002-1003 (Apr. 22, 1960). (2369)

Techniques of warp preparation for minimizing warp stripiness in finished cloth are discussed. Diagrs.

AVOIDING DEFECTS IN WOVEN FILAMENT FABRICS. A. Chadwick (Brit. Rayon Research Assoc.). Textile Weekly 60 (1): 1082-1087, 1090 (Apr. 29, 1960). (2370)

Sources of warp stripiness on the slasher system are discussed. Diagrs.

AVOIDING DEFECTS IN WOVEN FILAMENT FABRICS. A. Chadwick (Brit. Rayon Research Assoc.). Textile Weekly 60 (1): 1148, 1151-1152 (May 6, 1960). (2371)

Defects associated with pirn winding and their sources, are discussed.

PRELIMINARY REPORT ON THE EFFECT OF WEAVES, WITH CONSTANT SETTING, ON SOME FABRIC PROPERTIES. Srinagabhushana, S. Srikantiah, and D. V. Muniswamy (SKSJ Technological Inst., Bangalore). Textile Dig. 20: 158-160 (Oct.-Dec. 1959). (2372)

An investigation was made of the effect of the weave on fabric properties. Plain and four different twill structures were studied. Tables.

CANDIDATE MATERIALS FOR HIGH TEMPERATURE FABRICS. D. E. Johnson and others (Arthur D. Little, Inc.). Wright Air Development Center, Wright-Patterson Air Force Base, Ohio. Sept. 1959. 146 p. WADC tech. report 59-155. (2373)

This study involved an evaluation of existing data relative to the development and use of high-temperature fabrics for re-entry parachutes. Anticipated environmental and aerodynamic factors of re-entry from satellite orbits were used as a basis for the selection of candidate materials. All types of high-temperature materials that could be made into fabric were evaluated, including metals, ceramics, glasses, inorganic and organic polymers, and single crystal systems (whiskers). Emphasis was placed on a study of forming fibers from a melt, because of the limitations of present techniques with metals and high-melting ceramics. This report presents a new theory on the parameters that govern the ability of a substance to be melt spun into filaments and the maximum cooling time allowed for such spinning. Extensive references.

WASH-AND-WEAR AS THE CONSUMER VIEWS IT. G. M. Smith (Sears, Roebuck & Co.). Am. Dyestuff Reptr. 49: P354-P356 (May 16, 1960). (2374)

POPLINS AND GABARDINES. W. Wiechmann. Melliand 41, No. 2: 110-114 (1960). (2375)

The construction of poplins and gabardines is compared, and some weaving details are given. Diagrs.

MECHANICAL FAULTS IN TEXTILE PROCESSING. J. D. Poole. Textile Mfr. 86: 162-163 (Apr. 1960). (2376)

Sources of fabric defects due to mechanical faults during the conversion of fibers into yarn, yarn into fabrics, and fabrics into finished products are discussed by means of examples.

HOW TO IDENTIFY DEFECTS IN FABRICS. Am. Fabrics No. 49: 96-100 (Spring 1960). (2377)

An alphabetical list of 108 brief descriptions of fabric defects and their causes. Photomicrographs.

SYNTHETIC FIBERS IN PAPER MANUFACTURE. L. Walter. Fibres and Plastics 21: 135-137, 142 (May 1960). (2378)

Among the developments discussed are: wood pulp/synthetic fiber blends; cellulose/nylon blends; Papertex made of synthetic resins and synthetic fabrics (Snia Viscosa); and Clupak stretchable paper (West Va. Pulp & Paper Co.). Diagr, graph, tables, 8 refs.

FABRICS FOR COATING: MILITARY APPLICATIONS. Proceedings of a Conference, Quartermaster Research and Engineering Center, Natick, Mass., Oct. 16-17, 1958. National Academy of Sciences, National Research Council, Washington, D. C. 1959. 225 p. Available from Headquarters Quartermaster Research and Engineering Command, Natick, Mass. (2379)

Contents: Army applications of fabrics for coating, by S. J. Kennedy, p. 7-29; Naval applications for coated fabrics, by R. Grubb, p. 30-40; Role of coated fabrics in today's air force, by J. H. Ross, p. 40-54; Design for climatic extremes, by A. Henschel, p. 54-60; Interactions of fabrics and coatings, by M. M. Platt, p. 60-81; Fabrics for coating: design and construction, by W. A. Corry, p. 83-96; New fibers and fabrics for coating, by R. C. Pike, p. 97-116; Technical advances in coating materials for fabrics, by F. H. Fritz, p. 117-145; Technical problems of the coater, by J. L. Haas, p. 145-161; Evaluation of end item performance, by K. L. Keene, p. 161-187; Characteristics of vinyl and nitrile coating materials as well as a look at some newer products, by L. L. Shailer, Jr., p. 189-191; Butyl rubber in proofed goods applications, by S. R. Shuart, p. 192-197; The laminate structure, by D. H. Schafer, p. 197-201; Comments on fibers, by W. Whitehead and O. D. Schumann, p. 201-206; Discussion, p. 207-225.

TUFTED CARPETS: REVIEW OF TECHNICAL DEVELOPMENTS. Melliand 41, No. 2: 102-106 (1960). (2380)

VOLLENWEIDER IMPERIAL AUTOMATIC SELVAGE TRIMMING MACHINE. Sam. Vollenweider AG. Melliand 41, No. 2: 108, 110 (1960). (2381)

CLOTH TERMS AND PARTICULARS: JUTE FABRICS. W. Middlebrook. Textile Mfr. 86: 136-137 (Apr. 1960). (2382)

Warp and weft, ends and picks of plain weave cloths, such as baline, tarpauling, hessian, scrim, of twills and fancy weaves including mattings, brattice cloth, and of carpet fabrics.

WOVEN CARPET. PART 11. MECHANICALLY KNOTTED CARPET. H. Osswald. Melliand Textilber. 41, No. 3: 296-301 (1960). In German. Through BCIRA 40: 1351 (1960). (2383)

Methods of carpet knotting are reviewed, with reference to the respective patented processes.

CHEMISTRY AND APPLICATION OF RUG-BACKING COMPOUNDS. PART 4. HOW TO USE LAMINATES AND FOAMS. G. Brawner. Textile World 110: 70-72, 76 (May 1960). (2384)

The properties and application of jute and scrim laminates as backing compounds, and the production and properties of underlays made of scrap foam rubber, urethane, and latex foam are described. Photos.

FINISHING D

DYEING AND FINISHING FABRICS OF TASLAN TEXTURED NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1960. 3 p. Bull. N-125 (replaces Bull. N-74). Free. (2385)

Scouring, bleaching, heat setting, sanding, dye classes and finishes for nylon 66.

DYEING AND FINISHING FILAMENT DACRON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Apr. 1960. 46 p. Bull. D-107 (replaces Bull. D-73 and D-97). Free. (2386)

FIXING, DYEING, AND PRINTING OF PERLON. G. Früh. Z. ges. Textil-Ind. 62, No. 4: 113-116 (1960). In German. Through BCIRA 40: 1365 (1960). (2387)

Properties which have a bearing on the setting, dyeing, and printing of Perlon textiles are discussed, and directions are given for carrying out the respective processes.

MEASURING ENERGY CONSUMPTION IN FINISHING PLANTS. Dr. Schlecht. Textil-Praxis (English ed.) No. 1: 43-48 (Mar. 1960). (2388)

Methods and instruments for measuring energy consumption are described. Diagrs.

DYEING AND FINISHING IN THE HATTING INDUSTRY. B. Kramrisch (Ciba Clayton Ltd). J. Textile Inst. 51: P191-P199 (Apr. 1960). (2389)

The paper deals mainly with felts made of wool and rabbit fur. Classes of dyes used, their fastness, dyeing machinery, printing formulations for hoods, and finishes for luster, firmness, waterproofing, and melusine effects are briefly discussed. The use of manmade fibers is also mentioned. Tables, 14 refs.

TEXTILE FABRIC PROCESSING. P. Eastwood (Standish Co. Ltd). Textile Weekly 60 (1): 1155-1162 (May 6, 1960). (2390)

Fabric defects arising during the singeing, bleaching, dyeing, and finishing of fabrics per se, as well as those relating to spinning and weaving faults are outlined.

CHEMICAL PRINCIPLES OF DYEING AND FINISHING. R. A. Brooks (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 49: P310-P313, P318 (May 2, 1960). (2391)

This paper describes the common textile fibers, dyes, and finishing agents in terms of their most important chemical characteristics, as an aid to understanding their behavior. Diagrs.

CONTINUOUS TEMPERATURE GAGING SYSTEM FOR MOVING SURFACES. H. C. Kosmeier. Textil-Praxis (English ed.) No. 1: 5 (Mar. 1960). (2392)

Temperature determinations on calenders, drying cylinders, and fabric lengths are independent of the rotational or running speed.

Chemical processes D1

INVESTIGATIONS INTO THE PROTECTIVE ACTION OF METALIZED TEXTILES AGAINST LIGHT AND HEAT RADIATION. E. Elöd and H. Jörder. Z. ges. Textil-Ind. 62, No. 4: 103-108 (1960). In German. Through BCIRA 40: 1378 (1960). (2393)

Experiments showed that metalization of textiles in the spectral region of about 0.3 to 2.5μ increases the protective action to light and heat radiation. Optimum protection is obtained by lining the textiles with a thin aluminum foil or an aluminum-coated plastic foil which, by a very fine perforation, can be rendered air and water-vapor permeable without appreciable reduction of its protective action. The only disadvantage of the lined materials is their lower pliability. Spraying of a thin aluminum layer on to the textiles leads to a good protective action, provided that the textiles are suitably pretreated, e.g. by applying a thin and, if possible, porous resin layer or chintz finish, or both, to improve the heat-insulating properties and the abrasion resistance of the vaporized metal.

BEHAVIOR OF POLYESTER FIBERS IN ACID AND ALKALINE FINISHING PROCESSES. G. von Hornuff. Faserforsch. u. Textiltech. 10, No. 12: 563-569 (1959). In German. Through BCIRA 40: 1203 (1960). (2394)

Literature dealing with the stability of polyester fibers to acids, alkali, and perspiration is reviewed. The difficulties encountered during carbonization are discussed in detail, with special reference to a method which permits carbonization of polyester/wool blends without fiber tendering. Different polyester fiber types were found to react differently during alkaline treatments, e.g. mercerization, boiling with soda, kiering and washing.

A BLEACHING PROBLEM IN THE HOSIERY DYE HOUSE. H. White (Malna Hosiery Co.). Hosiery Underwear Rev. 43: 65-66, 70 (May 1960). (2395)

Metal contamination problems in the chlorite bleaching of nylon hosiery with cotton yarn in the feet.

ACTIVATION OF SODIUM CHLORITE BLEACHING LIQUORS. T. Madlung. Faserforsch. u. Textiltech. 10, No. 12: 570-573 (1959). In German. Through BCIRA 40: 1206 (1960). (2396)

Bleaching experiments on flax and cotton yarns and on linen fabrics with sodium chlorite, using organic and inorganic ammonium salts as activators, are described. The activation with ammonium salts is of advantage on account of its simplicity. In the case of ammonium acetate and formate, the pH-value of 4.8-4.5 remains constant at boiling temperature so that the bleaching conditions are very mild and cause no damage to the fibers. During activation with ammonium chloride and sulfate, the pH-value decreases during heating continuously and reaches at boiling temperature a value of 3.4 and lower. By correct adjustment of the temperature, the bleaching process takes place rapidly and energetically with good utilization of the chlorite.

USE OF AMYLOPECTIN AND AMYLOSE IN THE TEXTILE INDUSTRY. P. Hiemstra and B. Nijland. Tex 18, No. 12: 1534-1539 (1959); 19, No. 1: 27-32 (1960). In Dutch. Through BCIRA 40: 1344 (1960). (2397)

The properties of starch, fractionation methods, properties of starch fractions, and their uses in sizing and finishing are reviewed, and some practical recipes are given.

SUGGESTIONS AND IMPLICATIONS IN THE USE OF ETHERIFIED STARCHES. M. Tomiuck (Actol Chem. Ltd). Can. Textile J. 77: 47-48 (Apr. 29, 1960). (2398)

The advantages of starch ethers over ordinary starches and their applications are discussed.

MASTERS AND MEN IN THE EARLY NINETEENTH CENTURY FINISHING INDUSTRY. S. H. Higgins. Dyer 123: 649-651 (Apr. 22, 1960). (2399)

Labor conditions and wages in the early English and Scottish bleachworks are described. 9 refs.

TESTING OF PVC COATED FABRICS. W. K. Dalton. Plastics 25: 71-76, 82 (Feb. 1960). Through BCIRA 40: 1406 (1960). (2400)

The tests (e.g. cloth weight, breaking load, tear strength, bursting strength, flex resistance, coating adhesion, resistance to heat aging, lightfastness, and abrasion resistance) are described. 29 refs.

LOW MOLECULAR WEIGHT POLYETHYLENES: THEIR USE IN PAPERBOARD COATINGS. R. Rosenbaum. Fibres and Plastics 21: 131-134 (May 1960). (2401)

WATERPROOFING TEXTILES WITH ROTAL SI SILICONE EMULSIONS FREE OF EMULSIFYING AGENTS AND PROTECTIVE COLLOIDS. H. Machemer and L. Hintz. Melliand 41, No. 2: 122, 124 (1960). (2402)

Recommendations for the finishing of wool and wool blends are given.

ASPECTS OF RESIN FINISHING OF TUBULAR KNITTED YARDGOODS. H. B. Goldstein (Sun Chem. Corp.). Knitted Outerwear Times 29: 19-20, 31 (May 9, 1960). (2403)

PHYSICAL PROPERTIES OF CHEMICALLY MODIFIED COTTONS. PART 5. EFFECTS OF AMINIZATION. A. W. McDonald, G. C. Humphreys, and J. N. Grant (So. Reg. Research Lab.). Textile Research J. 30: 312-317 (Apr. 1960). (2404)

Yarns from 6 cottons of widely different fiber characteristics were partially aminized to a degree of substitution averaging about 0.043. Moisture regain and linear density were increased by the treatment; modified cellulose density and fiber length were decreased. The changes in tenacity and modulus showed inconsistencies among samples of different cottons, with trends similar to those found in mercerization. Graphs, tables, 11 refs.

CHEMICAL FINISHING OF NATURAL SILK BY WEIGHTING. E. Kimmel and E. Popa. Industria Textila 11, No. 1: 18-22 (1960). In Rumanian. Through BCIRA 40: 1377 (1960). (2405)

Weighting of natural silk according to the tin-phosphate-silicate method is studied, and optimum conditions are determined for obtaining the desired effect without degradation of the material. The analytical methods used in controlling the weighting process are described, and an attempt is made to express by a formula the tin-phosphate-silicate compound.

DU PONT UNIFOG SPRAY PROCESS: TEXTILE FINISHING. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 11-16 (Apr. 1960). (2406)

The principle of the Unifog spray process and the features of the Unifog machine are described. Finishing formulations for softening and crease resistance are included. Diagr, tables.

STUDIES ON THE RESIN DISTRIBUTION IN RESIN FINISHING OF FABRIC. PART 4. ON THE REACTION OF THE PRECONDENSATES IN THE FINISHING BATH DURING PREDRYING. PART 5. ON THE EFFECTS OF PICK-UP PERCENTAGE. S. Yokoyama. J. Soc. Textile Cellulose Inds. Japan 16, No. 1: 42-47, 47-50 (1960). In Japanese (English summary). Through BCIRA 40: 1375 (1960). (2407)

Part 4. Urea-formaldehyde precondensates were studied, and the change of pH and relative viscosity of the finishing bath and influence of different catalysts, at 75° C were observed. The extent of production of formaldehyde and of formation of methylene linkages in a methylated-dimethylolurea bath was estimated. Part 5. The effect of pick-up percentage on resin distribution in cellulosic fabrics was studied. Below a certain value the amount of outer resin decreases and of inner resin increases, suggesting that severe squeezing is desirable in resin finishing.

MAGNESIUM DIHYDROGEN PHOSPHATE CATALYST FOR RESIN FINISHING. Textile Merc. 142: 619, 621 (May 6, 1960). (2408)

The advantages of the new catalyst over ammonium salts (which give rise to undesirable by-products) are cited. Examples of its use in creaseproofing cotton and spun rayon are included.

NEW FINISHES IN TEXTILES. C. S. Whewell (Univ. of Leeds). Textile Weekly 60(1): 945-946 (Apr. 15, 1960). (2409)

Wash and wear finishes for cellulose fabrics are discussed.

NEW FINISHES IN TEXTILES. C. S. Whewell. Textile Weekly 60(1): 1004, 1024 (Apr. 22, 1960). (2410)

Developments in wash and wear, shrinkproofing, and mothproofing finishes for wool are discussed.

CURRENT STAGE OF RESIN FINISHING OF COTTON FABRICS. H. A. Wannow. Melliand 41, No. 2: 144-150 (1960). (2411)

22 refs.

INVESTIGATION OF THE CARBONIZING OF WOOL. H. Zahn. J. Soc. Dyers Colourists 76: 226-231 (Apr. 1960). (2412)

Wool of crossbred quality, in the form of cloth, was carbonized with sulfuric acid (5% by weight). Part of the baked cloth was rinsed with water at the mill, part was stored in the laboratory in a desiccator over silica gel, and a third part was stored for up to 29 weeks in the conditioning room at 65% rh. After storage for 5 weeks and 7 weeks respectively, part of the dry and part of the humidified cloth was neutralized. Subsequently the wool was examined for modification by the following methods--alkali solubility, pH of aqueous extract, pyridine extraction, total sulfate, Van Slyke amino nitrogen, and end-group analysis using 1-fluoro-2,4-dinitrobenzene. The practical implications are discussed. Graphs, tables, 20 refs.

CHLORINE RETENTION IN MINIMUM-IRON FINISHING OF COTTON FABRICS. W. Rümens, H. Götz, and R. Zeidler. Melliand Textilber. 41, No. 3: 330-338 (1960). In German. Through BCIRA 40: 1376 (1960). (2413)

It is shown that, under certain processing conditions, it is possible to obtain even with nitrogen-containing reactant-type resins chlorine and washfast finishes on cotton fabrics without appreciable strength loss. Dimethyloldihydroxyethylene urea is superior to dimethylolethylene urea not only as regards the lightfastness of dyeings with direct and reactive dyes, but also in its chlorine stability. Satisfactory effects are obtained even with small amounts of the former and zinc chloride as catalyst; the chlorine stability, however, still depends upon the amount of catalyst and the condensation conditions. Dimethylolethylene urea is only chlorine stable in combination with buffer substances, e.g. dimethyloltriazinone, in which case magnesium chloride is a better catalyst than zinc chloride. The dimethyloltriazinone compound, which on its own also gives good wash- and chlorine-fast crease resistance, can be combined with dimethyloldihydroxyethylene urea to improve the tensile strength and abrasion resistance of the finished fabric. Yellowing was not observed.

ALDEHYDE-ETHYLENIMINE REACTION PRODUCTS AS FINISHES FOR COTTON FABRICS. L. H. Chance, R. M. Perkins, and W. A. Reeves (So. Reg. Research Lab.). Textile Research J. 30: 305-311 (Apr. 1960). (2414)

In an exploratory study the reaction products of ethylenimine with four aldehydes were evaluated primarily as wash-wear finishes for cotton fabric. Two dialdehydes, glyoxal and glutaraldehyde, and two α,β-unsaturated monoaldehydes, acrolein and crotonaldehyde, were used in the study. One of the new finishing agents, the reaction product of acrolein and ethylenimine, imparted good wrinkle recovery to cotton fabric. Tables, 19 refs.

Dyeing and printing D2

SOME AROMATIC ACETIC ACID AMINES AND AZO DYES DERIVED FROM THEM. P. M. Heertjes, H. C. A. van Beek, and H. A. Schmidt. Melliand Textilber. 41, No. 3: 320-322 (1960). In German. Through BCIRA 40: 1359 (1960). (2415)

Because of the apparently easy accessibility of acetic acid amines and their possible use in the preparation of dyes, some methods described in the literature were examined and several new ones developed. The azo dyes prepared from the compounds obtained were examined as regards their dyeing and fastness properties. Three types of dyes (acid, acid-chromable, and substantive) were produced. Their fastness properties were found satisfactory.

SOME RELATIONS BETWEEN THE CHEMICAL CONSTITUTION OF CIBACRON DYES AND THEIR DYEING CHARACTERISTICS. J. Wegmann (Ciba Ltd). J. Soc. Dyers Colourists 76: 205-209 (Apr. 1960). (2416)

The early history of the reactive dyes and the requirements for practical application are discussed. The structural elements of Cibacron reactive dyes are indicated, and the dyeing properties of such dyes of the azo, anthraquinone, and phthalocyanine groups are correlated with their chemical constitution. Reference is made to the advantage of using a special detergent for washing off reactive dyeings produced with phthalocyanine derivatives. Photos, diagrs, 4 refs.

THIOINDIGOID DYES FROM 2-ARYLIMINOTHIAZOLIDONE-4: PREPARATION OF SOME 3-[2-ARYLIMINO-4-KETOTHIAZOLIDINYLIDEN-(5)]-OXINDOLES. R. Pratap Rao (Univ. of Gorakhpur). (Letter to the editor). J. Sci. Ind. Research (India) 19A: 29 (Jan. 1960). (2417)

USE OF METAL COMPLEXES IN ORGANIC DYES AND PIGMENTS. O. Stallmann (E. I. du Pont de Nemours & Co.). J. Chem. Educ. 37: 220-230 (May 1960). (2418)

A review with 80 references.

STUDIES ON THE DYEING OF ACRYLONITRILE FIBER. PART 1. ABSORPTION OF ACIDS IN THE ANION-EXCHANGE RESIN. PART 2. MECHANISM OF REDUCTION OF CUPRIC SULFATE. Y. Takase. J. Soc. Textile Cellulose Inds. Japan 16, No. 1: 51-55, 55-60 (1960). In Japanese (English summary). Through BCIRA 40: 1367 (1960). (2419)

Part 1. When solutions of acid dyes of molecular length greater than 15 Å are passed through a weak-base polyamide-type ion-exchange resin, pure dye solutions suitable for dyeing experiments are obtained. Part 2. The cuprous-ion dyeing method was studied, and the use of hydroxylamine sulfate as reducing agent is discussed.

NEW EQUIPMENT FOR THE PREPARATION OF PRINTING SCREENS. E. Kälin. Melliand 41, No. 2: 152, 154 (1960). (2420)

A copying machine with optical adjustment, a lacquer removing machine with rotatable suction nozzle, and a gauze-stretching device, in which the clips are directly pressed on to the screen frame by pneumatic means, are described.

NEW APPROACH TO THE DYEING OF POLYAMIDE FIBERS: PROCINYL DYES. S. C. Parry and K. M. Gandhi. Silk Rayon Inds. India 3: 19-21 (Jan. 1960). (2421)

POSSIBILITIES FOR DYEING POLYAMIDE/POLYESTER BLENDS. G. Dierkes and H. Drexel. Reyon Zellwolle Chemiefasern 10, No. 2: 116-121 (1960). In German. Through BCIRA 40: 1366 (1960). (2422)

Various dyeing methods are examined for their applicability to polyamide/polyester fiber blends. Owing to the limited wet and lightfastnesses of dyeings obtained with disperse dyes on polyamide fibers, the thermosol process and dyeing at temperatures above 100° C are unsuitable. In spite of selected carriers, dyes, and textile assistants, the polyamide fibers were found to dye a deeper shade than the polyester fiber when treated at temperatures below 100° C; they must be stripped and redyed with dyes which give better fastnesses. Of the Intramin dyes, the black brands are especially suitable for dyeing in the same shade; the other dyes give considerable shade differences between the two fiber types. The lightfastness of dyeings obtained with oxydiphenyl compounds as carriers can be improved by various aftertreatments. 18 refs.

PRACTICAL DIRECTIONS FOR MACHINE-DYEING CELLULOSIC FIBERS WITH VAT DYES. F. Berndt. Z. ges. Textil-Ind. 62, No. 2: 48-55; No. 4: 119-123 (1960). In German. Through BCIRA 40: 1362 (1960). (2423)

Preparation of the material (cotton, viscose, and cuprammonium rayon in the form of flock, card sliver, and yarn) for dyeing and dyeing methods are described, with special reference to the use of Indanthrene dyes; calculation of sodium hydroxide and hydrosulfite additions; use of assistants; rinsing, oxidizing, and soaping. Special dyeing methods (for viscose rayon and especially for cuprammonium rayon) in which the vat dye is used in its nonsubstantive form (pigment, vat acid, or hydrolyzed sodium leuco compound) are discussed in greater detail, and some directions are given for dyeing card slivers, rayon cheeses, and zip-fastener tape.

DYEING OF SYNTHETIC FIBERS. PART 7. INCREASING THE DYEABILITY OF NITRON ACRYLIC FIBER BY PRETREATMENT WITH AQUEOUS SOLUTIONS OF CALCIUM AND ZINC CHLORIDE. E. S. Roskin, A. A. Kharkharov, and V. S. Fel. Tekhnol. Tekstil. Prom. No. 3 (13): 104-106 (1959). In Russian. Through BCIRA 40: 1221 (1960). (2424)

Treatment of Nitron fabrics at 80° C for 30 min with salt solutions, consisting of 6 parts saturated calcium chloride and 4 parts saturated zinc chloride solutions, causes swelling of the fiber (i.e. considerably increases the intermolecular spaces) and decreases the packing density of the macromolecules, as a result of which the dyeability increases 15-20 times. Optimum quantity of the salt solution was determined. Dyeing of the treated Nitron fiber with aqueous solutions of azo dyes should be carried out in the presence of an electrolyte to increase the dye absorption of the fiber. The recommended dyeing method can be used for obtaining light and medium shades by means of a series of direct and acid dyes.

STAINING OF SYNTHETIC FIBERS BY VAT DYES. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 34-36 (Apr. 1960). (2425)

Results on the staining of Dacron and Orlon fibers during vat dyeing of cotton are given.

DYEING EXPERIMENTS ON SPUN RAYON FABRIC SIZED WITH CARBOXYMETHYLCELLULOSE. G. I. Yakimov and A. Z. Chernomordik. Tekstil. Prom. 19, No. 12: 67-69 (1959). In Russian. Through BCIRA 40: 1217 (1960). (2426)

Experiments have shown that when dyeing gray spun-rayon fabrics sized with carboxymethylcellulose the latter dissolves in the dye liquor and reacts with the dye. The deposition of the reaction products depends on the velocity of the dyeing process. Desizing of fabrics prior to dyeing is therefore recommended. It is also pointed out that the capillarity of the fabric sized with carboxymethylcellulose is 1.5-2 times lower than that of material treated with starch sizes.

REACTIONS OF COLD-DYEING PROCION DYES WITH CELLULOSE. T. L. Dawson, A. S. Fern, and C. Preston (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 76: 210-217 (Apr. 1960). (2427)

The historical development of reactive dyes for cellulose and wool is reviewed briefly. The reactions of dichloro-s-triazinyl dyes with water, cellulose-model compounds, and with the primary and secondary hydroxyl groups of cellulose are discussed, and a scheme for describing the fixation of these dyes under mild and severe conditions of alkalinity and temperature is presented. Paper chromatography, color reactions in presence of a pyridine-caustic soda mixture, and cuprammonium solubility have helped to provide the evidence on which this scheme is based. Graphs, tables, 29 refs.

DYEING OF CELLULOSE ACETATE WITH DISPERSE DYES. PART 9. EFFECT OF VARYING ACETYL VALUE. C. L. Bird and G. Tabbron (Leeds Univ.). J. Soc. Dyers Colourists 76: 217-222 (Apr. 1960). (2428)

Fiber saturation values have been determined at 90° C for two groups of three similar disperse dyes on secondary cellulose acetate, cellulose triacetate, and three cellulose acetates of intermediate acetyl value. The results have been correlated with the accessibility of the substrates and the hydrophobic character of the dyes and substrates. The rates of dyeing at 90° C of two commercial dyes on the five yarns were found to decrease with increasing acetyl value, especially above 58% acetic acid content. Graphs, tables, 14 refs.

SINGLE BATH DYEING OF WOOL-DYNEL FABRICS. F. C. Rippner and H. K. Townsley (Union Carbide Chemicals Co.). Am. Textile Reptr. 74: 31, 132 (May 5, 1960). (2429)

The single-bath piece dyeing procedure reduces dyeing time from more than 8 hr for a 2-bath method to between 2-1/2 to 4 hr. The method depends on the use of Tinegal RW1 for ensuring level dyeings in an acid bath using the weak-acid or neutral dyeing wool dyestuffs, and of Peregal TW as an anti-precipitant. The wool dyestuffs, having anionic characteristics, form a complex with the cationic dyes used for the Dynel.

I-T PROCESS FOR APPLYING CATIONIC DYES TO ACRYLIC FIBERS. J. A. Leddy (Geigy Chem. Corp.). Am. Dyestuff Reptr. 49: P272-P284 (Apr. 18, 1960). (2430)

The I. T. (Irgasol DA-Tinegal NA) method is based on the principle of using an anionic leveling agent with a cationic dye with the object of forming complexes to reduce the rate of drawing. Its application to acrylic fibers and blends is discussed. Photos, diagr, tables.

DYEING OF ACRILAN 16 AND ACRILAN 16/ACRILAN BLENDS. T. E. Croxson (Chemstrand Corp.). Am. Dyestuff Reptr. 49: P314-P318 (May 2, 1960). (2431)

Although Acrilan 16 has basic physical properties that are very similar to Acrilan, the dyeing properties are very dissimilar. By taking advantage of these differences in dyeing characteristics, a simple technique has been worked out whereby blends of acrylic fibers can be cross-dyed into an almost limitless range of 2-color combinations from a single bath. This technique employs selected basic dyes for the Acrilan 16 component and selected acid dyes for the Acrilan. These are applied from a strong acid bath containing an agent or system to prevent coprecipitation between acid and basic dyes. Graphs, tables.

USE AND BEHAVIOR OF DYE-CARRIERS IN DYEING SYNTHETIC FIBERS. B. C. M. Dorset. Textile Mfr. 86: 155-160 (Apr. 1960). (2432)

A review of some of the results of various researches carried out by the AATCC Piedmont Section. See abstr. 194/60.

DYEING OF TERYLENE POLYESTER FIBER/WOOL BLENDS. A. Zinnato (Du Pont of Canada Ltd). Can. Textile J. 77: 51-52 (Apr. 29, 1960). (2433)

Data on dye selection, dyeing rate and time of dyeing, temperature of dyeing, and carrier selection are given, and a typical dye procedure via the 2-bath method is outlined.

SELECTION OF CARRIERS FOR DYEING POLYESTER FABRICS. F. Martin (Can. Celanese Ltd). Can. Textile J. 77: 49-50 (Apr. 29, 1960). (2434)

Some of the desirable and undesirable properties of carriers, and their effect on the dyeing behavior and colorfastness of disperse dyestuffs are discussed.

PRINCIPLES OF PIGMENT PADDING. R. Kern. Melliand 41, No. 2: 126-132 (1960). (2435)

The problems connected with the dyeing of cellulosic fibers with vat dyestuffs, and the advantages and problems raised by applying vats in pigment form are discussed briefly. Photos, diagr.

DU PONT DYES ON ZANTREL HIGH-MODULUS CELLULOSIC FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 17-23 (Apr. 1960). (2436)

Data on buildup, levelness, and fastness of selected direct, developed, and vat dyes on Zantrel fibers are given. Tables.

DYEING SYNTHETIC FIBERS. 6th ed. General Aniline & Film Corp., 435 Hudson St., New York 14, N.Y. 1960. 86 p. GS-66. (2437)

Under each fiber the brochure outlines dyeing methods and indicates general fastness properties that may be expected.

SIMULTANEOUS DYEING AND RESIN FINISHING OF CELLULOSIC FABRICS BY THE PROCION-RESIN PROCESS. Imp. Chem. Inds. Ltd. Textile Recorder 77: 79 (May 1960). (2438)

EFFECT OF SULFURIC ACID ON LATYL DYES APPLIED TO DACRON. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 32-33 (Apr. 1960). (2439)

In matching shades on Dacron/cotton blends where Dacron is dyed first, it is customary to extract the cotton with 70% sulfuric acid to determine or check the progress of the shade on the Dacron. Results of tests to ascertain what effect the acid has on the shade of Latyl dyes already on the Dacron are given.

DYEING OF LOOM FINISHED FABRICS. E. Wilhelm (Badische Anilin- & Soda-Fabrik AG). Textil-Praxis (English ed.) No. 1: 30-36 (Mar. 1960). (2440)

Procedures for pigment and vat padding, simultaneous waterproofing and dyeing, absorbent finishing by steaming, and removal of boll particles from woven cotton fabrics are described.

TWELVE MILLION YARDS OF NATURAL AND MAN-MADE FIBERS DYED ON THE SWEDISH PAD-ROLL DYEING MACHINE. R. M. Lesh (Northern Dyeing Corp.). Am. Dyestuff Reptr. 49: P306-P309 (May 2, 1960). (2441)

In this report of mill experiences on the use of the Swedish pad-roll machine, the advantages and disadvantages are cited, and the superior quality of the dyeings obtained is summarized by means of a table giving the results of comparative cross sections of various fabrics. Photos, table, 3 refs.

DU PONT THERMOSOL DYEING PROCESS. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 37-50 (Apr. 1960). (2442)

Diagr, tables, 14 refs.

CONTRIBUTION TO THE PHYSICAL CHEMISTRY OF DYEING. W. Luck. Melliand Textilber. 41, No. 3: 315-320 (1960). In German. Through BCIRA 40: 1360 (1960). (2443)

It is shown that the individual equilibria present in the dyebath can be quantitatively determined by means of spectroscopy. The dispersing action of the assistants is attributed to a dye/assistant addition, from which the equivalent amount of dye absorbed by the fiber is liberated according to the equilibrium constant, so that the free-dye concentration can be maintained constant for a prolonged period. The system dye/solution/fiber can be described as a distribution equilibrium with superposed reaction in the fiber.

NEW EXPERIENCE WITH THE KREFELD ONE-STEP PAD-JIG PROCESS. R. B. Vogel. Melliand 41, No. 2: 134-136 (1960). (2444)

The applicability of the pad-jig machine for small batches, pebble effects, and vat and reactive dyes is summarized. Photos, diagrs.

PRINTING ACETATE FIBER FABRICS. P. Weber. Textil-Praxis (English ed.) No. 1: 37-43 (Mar. 1960). (2445)

Directions are given for printing acetate rayon with disperse, basic, or vat dyes, reference being made to various methods (e.g. Manofast and Rongalite H). Suitable dyes are listed.

MONFORTS REACTOR: NEW CONTINUOUS DYEING MACHINE. J. C. Roehl (A. Monforts Mach. Works). Am. Dyestuff Reptr. 49: P351-P353, P362 (May 16, 1960). (2446)

The Monforts reactor is compactly built as an integral unit consisting of pad, double-jacketed cylinder, endless Neoprene-faced blanket, and washing, drying, and heating mechanism for blanket. The reactor principle involves continuous passage for fabric through a special entrance pad to a steam-heated jacketed drum surrounded by an endless blanket with a smooth Neoprene surface which hermetically seals the fabric on the reactor drum. Its applications are described. Photo, diagr, 5 refs.

TESTS ON THE DIFFUSION OF DYES. R. H. Peters and J. H. Petropoulos. Bull. Inst. Textile France No. 84: 49-68 (Oct. 1959). In French. Through BCIRA 40: 1208 (1960). (2447)

Experiments carried out by dyeing nylon, cellophane, and cellulose acetate films and measuring the dye distribution in the film cross-section by means of a micro-densitometer are described. The distribution curves obtained are used to calculate the effect of concentration on the diffusion coefficient, and the results are studied with reference to the accepted theories of dyeing.

TECHNOLOGY OF FABRIC PRINTING. P. I. Kon'kov. Tekstil. Prom. 19, No. 12: 51-53 (1959). In Russian. Through BCIRA 40: 1225 (1960). (2448)

New finishing and printing methods for cotton fabrics are discussed, and a new printing device is illustrated and its mechanism described. Directions are given for carrying out the process and a composition is recommended, containing per 1,000 g water, 10 g of a direct dye, 100 g metadiazine, 7 g Alkamon OS-2, 10 g ammonium formate, 10 g urea, and the required amount of thickening agents (e.g. tragacanth). Instead of direct dyes, vat dyes and pigments can be used. The printing process can be combined with other finishing processes, e.g. glazing.

METHOD OF ROLLER ENGRAVING. F. Uhlig. Z. ges. Textil-Ind. 62, No. 4: 123-126 (1960). In German. Through BCIRA 40: 1368 (1960). (2449)

The preparation of printing rollers for cloth printing is described, and engraving methods (steel-roller engraving for calico printing, panto- and photo-engraving) are outlined, reference being made to the individual working stages and use of the respective methods.

STUDY OF THE PROPERTIES OF THICKENERS AND PRINTING PIGMENTS. PART 2. F. I. Sadov and S. M. Khen. Tekhnol. Tekstil. Prom. No. 6 (13): 91-97 (1959). In Russian. Through BCIRA 40: 1224 (1960). (2450)

It was found that the viscosity of printing pastes is determined by the thickeners present in them, and that it gradually decreases as a result of the reaction between the components entering into the composition of the pastes. The viscosity of thickeners and printing dyes was also determined in dependence of concentration and temperature and that of mixed thickeners (starch + dextrin; starch + tragacanth) in dependence of the ratio of the components. The results are presented graphically. (See also abstr. 1557/60.)

KINETIC INVESTIGATIONS ON THE DYEING OF CELLULOSE FIBERS WITH VAT DYES. M. I. Artym and P. V. Moryganov. Tekhnol. Tekstil. Prom. No. 6(13): 107-113 (1959). In Russian. Through BCIRA 40: 1212 (1960). (2451)

Diffusion coefficients in the fiber were determined for two vat dyes. The diffusion coefficients of leuco compounds of vat dyes, determined in the absence of auxiliary agents, are of the same order as those of direct dyes. The effect of auxiliary agents in the vat dyebath is similar to that of organic solvents on the diffusion of direct dyes, namely: the diffusion coefficient increases with increasing concentration of the auxiliary agent, passing through a maximum; the activation energy decreases; changes are caused in the degree of aggregation of the leuco compound in the solution. This effect makes it possible to obtain level dyeings with a good crocking fastness and to increase the dyeing rate.

FASTNESS OF CAPRACYL DYES ON ACRILAN ACRYLIC FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 24-26 (Apr. 1960). (2452)

FASTNESS OF CAPRACYL DYES ON CRESLAN ACRYLIC FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 27-28 (Apr. 1960). (2453)

Mechanical processes D3

INDUSTRIAL AND MECHANICAL DETAILS ON THE SINGEING OF YARNS. W. T. Swatek. Melliand Textilber. 41, No. 3: 288-292 (1960). In German. Through BCIRA 40: 1332 (1960). (2454)

The new Swiss electrical yarn singeing machine described (developed by Mettler & Sons, Arth) is found to operate much more cheaply than machines using gas or petrol.

Drying, setting, conditioning D4

FLEISSNER SYSTEM DRUM DRYING AT 20 FOOT WIDTHS. P. Hielle. Textile Merc. 142: 622-623 (May 6, 1960). (2455)

Tests with tufted carpets and other goods of relatively large width on the Fleissner drum dryer with the perforated drums arranged in one line have shown that this type of machine can be employed ideally for this purpose, provided only that its working width can be adapted to the width of these materials. The use of either direct ventilation or short air circulation can be used. Diagrs.

REMOVING MOISTURE FROM TEXTILES. Hydraxtor Co. Textile Weekly 60(1): 1005, 1024 (Apr. 22, 1960). (2456)

In the Hydraxtor, moisture is removed by water pressure by using a large container with a built-in rubber diaphragm which is expanded by water under pressure. The operation of the machine is described. Photo, diagr.

TROCKENTECHNIK TENTER FRAME. Trockentechnik Kurt Bruckner KG. Can. Textile J. 77: 69-70 (May 6, 1960). (2457)

HIGH OUTPUT KRANTZ MULTI-TIER TENTER WITH JET DRYING. P. Zanke. Melliand 41, No. 2: 138-142 (1960). (2458)

Features and advantages are described in detail. Photos, diagrs.

TESTING AND MEASUREMENT E

ELECTRON MICROSCOPY: REVIEW OF FUNDAMENTAL DEVELOPMENTS IN ANALYSIS. T. G. Rochow, A. M. Thomas, and M. C. Botty (Am. Cyanamid Co.). Anal. Chem. 32: 92R-103R (Apr. 1960). (2459)

A review with 198 references.

HOW TO INSTALL YOUR PRODUCTION THERMOMETERS. W. H. Wilks (Minneapolis-Honeywell Regulator Co.). Textile World 110: 244-245 (May 1960). (2460)

Pointers are given for locating thermometers properly to avoid maintenance problems and consequent loss of production. Diagrs.

INTERPRETING RELIABILITY BY FITTING THEORETICAL DISTRIBUTIONS TO FAILURE DATA. W. S. Connor (Research Triangle Inst.). Ind. Eng. Chem. 52: 71A-72A (Apr. 1960). (2461)

Study of the failure history of a device is useful in estimating reliability and in improving future performance.

Fibers E1

STAIN FOR THE MICROSCOPICAL DETECTION OF DAMAGE IN VISCOSE RAYON. J. E. Ford (Shirley Inst.). J. Textile Inst. 51: T157-T163 (Apr. 1960). (2462)

The stain consists of a solution containing 1% of Chlorazol Sky Blue FF and 3% (by volume) of pyridine. Its use is described and illustrated. Photomicrographs, 5 refs.

TESTING OF SYNTHETIC FIBERS. PART 2. E. P. Frieser. Spinner u. Weber 78, No. 2: 81-86 (1960). In German. Through BCIRA 40: 1398 (1960). (2463)

Trade names, methods of preparation, microscopical examination, detection and quantitative determination of characteristic elements and groups, and special methods for differentiating between fibers of the same group are reviewed, with reference to fibers on polyamide and polyester basis. For Part 1 see abstr. 1079/60.

MICRONAIRE TESTING OF DESI COTTONS. F. A. Bhatty and S. A. Ansari. Pakistan Inst. Cotton Research & Technol. Technol. Bull., Series B, No. 2: 1-25 (Sept. 1959). (2464)

A method is described of adapting the micronaire for testing coarseness of Desi cottons. The essential features of the new technique are a new Desi curvilinear scale, which can be mounted simply on the instrument parallel to the flow meter tube, and a new dual orifice appropriate to the scale. See also abstr. 516/59. Graphs, tables, 26 refs.

INTERLABORATORY STUDIES OF THE SHIRLEY ANALYSER METHOD. H. W. Little, L. A. Fiori, and S. C. Mayne, Jr. (So. Utilization Research & Develop. Div.). (Letter to the editor). Textile Research J. 30: 319-321 (Apr. 1960). (2465)

TESTING OF TEXTILES: AIR FLOW EXAMINATION FOR DETERMINING THE MICRONAIRE VALUE OF COTTON FIBERS, MEASURED WITH DEVICES OF THE MICRONAIRE TYPE 60 600 AS REFERENCE APPARATUS. German Standards Comm. Melliand Textilber. 41, No. 3: 286-287 (1960). In German. Through BCIRA 40: 1395 (1960). (2466)

The micronaire method described in DIN 53 941 (principles, sampling, apparatus, and its adjustment, calibration and control, test and test report) is also contained in Part 2 of the Draft ISO Recommendations No. 224: Methods of test for cotton fibers. The proposed specification is followed by some remarks and views on the standardization of the micronaire-value determination (J. Juilfs, p. 287).

ELECTROMICROBALANCE FOR WEIGHING FIBERS. F. R. Morgan (Brit. Leather Manufacturers' Research Assoc.). J. Sci. Instr. 37: 53-54 (Feb. 1960). (2467)

An electromicrobalance is described that has a capacity of about 1.5 mg and weighs to about 1 μg. Diagrs, graph.

APPARATUS FOR THE MEASUREMENT OF THE MECHANICAL PROPERTIES OF FIBERS. F. R. Morgan (Brit. Leather Manufacturers' Research Assoc.). J. Sci. Instr. 37: 25-27 (Jan. 1960). (2468)

Apparatus for determining the mechanical properties of eight fibers simultaneously is described. The apparatus provides for tests to be made at different relative humidities, chainomatic loading up to about 450 g, and measurement of extensions of the order of 10^{-3} cm. Photos, diagrs, 5 refs.

QUANTITATIVE DETERMINATION OF COTTON IN COTTON/VISCOSE RAYON BLENDS. E. Frieser. Textil-Praxis 15, No. 2: 160-168 (1960). In German. Through BCIRA 40: 1245 (1960). (2469)

All known chemical (potassium thiocyanate, sodium hydroxide, modified sulfuric acid, sodium zincate, sodium zincate/ammonium thiocyanate, formic acid/zinc chloride, formic acid/calcium chloride) and physical (mechanical sorting, counting, sedimentation) methods for the quantitative separation of cotton/viscose rayon blends are reviewed, and their accuracy is compared. The lowest cotton losses (in weight) and the most accurate values are obtained by a modified formic acid/calcium chloride method. 28 refs.

QUANTITATIVE ANALYSIS OF RILSAN IN BLENDS WITH COTTON. G. Gianola and O. Meyer. Bull. Inst. Textile France No. 84: 71-76 (Oct. 1959). In French. Through BCIRA 40: 1248 (1960). (2470)

The method described consists in treating the samples with boiling 98% formic acid for 10 min to dissolve the Rilsan component and weighing the remaining cotton after filtering, washing with cold formic acid and distilled water, and drying to constant weight at 105° C. Correction factors of 1.02 and 0.98 are used for raw and scoured or bleached cotton, respectively. The method is not applicable to Rilsan/viscose blends but can be used in the case of Rilsan/wool.

SUPERCONTRACTION OF WOOL FIBERS: METHOD FOR MEASUREMENT. R. H. White and R. C. Newton (Huyck Felt Co.). (Letter to the editor). Textile Research J. 30: 326-327 (Apr. 1960). (2471)

A method based upon photographic projection and measurement of the fiber length with a map-measuring instrument is described. Diagr, 3 refs.

MECHANICAL PROPERTIES OF FEATHER AND DOWN FIBERS. PART 2. DESIGN AND OPERATION OF A VACUUM VIBROSCOPE. J. H. Dusenbury, C.-N. Wu, and C. J. Dansizer (Textile Research Inst.). Textile Research J. 30: 290-296 (Apr. 1960). (2472)

Measurements at 70° F and various dry-air pressures have been made to estimate the effects of air-damping on vibroscopic determinations of mass per unit length, of bending modulus, and of torsional modulus for European goose feather barbs and down filaments. With the Vacuum Vibroscope which was designed and constructed to facilitate these measurements, it is possible to carry them out in a vacuum or in controlled atmospheres; e.g., constant relative humidity. Significant but relatively small air-damping effects were observed in the determinations of mass per unit length and of bending modulus; the effects observable in the determinations of torsional modulus were much smaller. Photos, graphs, table, 5 refs.

EXAMINATION OF DAMAGED SYNTHETIC FIBERS. H. Groschopp. Textil-Praxis (English ed.) No. 1: 19-25 (Mar. 1960). (2473)

Defects caused during production and processing of manmade fibers (due to mechanical, thermal, chemical, and other factors) are reviewed and illustrated. The author discusses damages in knitted goods due to various mechanical causes (ladders, snags, fish-eyes), and gives some directions for the microscopic examination of manmade fibers. Photomicrographs.

Yarns E2

POSSIBILITY OF CALCULATING PERMISSIBLE VARIATIONS IN YARN COUNT CONTROL. C. Pujol. Ingenieria Textil 26, No. 140: 375-381 (Sept./Oct. 1959). In Spanish. Through BCIRA 40: 1256 (1960). (2474)

Equations are given for calculating the limit of error in determining yarn irregularity within a given batch.

DEFORMATION OF FILAMENTS WITHIN YARNS DUE TO TRANSVERSE FORCES. J. W. S. Hearle and H. M. A. E. El-Behery (Manchester Coll. Science & Technol.). (Letter to the editor). Textile Research J. 30: 322-324 (Apr. 1960). (2475)

A microscopic method of estimating the magnitude of the transverse forces in a yarn, and their variation through yarns of different twists, by examining the deformation of the filament cross sections is described. Photomicrographs.

TESTS TO CHECK KNOTTING QUALITY. E. N. Ditton. Modern Textiles Mag. 41: 46 (May 1960). (2476)

The knot holding test for measuring the knot-holding ability of threads and twines tied together for such end uses as netting or mattress tufting twines, and the knot impact test for measuring the impact resistance of knots are described.

TENSOMETRIC DEVICE FOR MEASURING THE TENSION IN FAST RUNNING YARNS. E. A. Onikov. Tekhnol. Tekstil. Prom. No. 6 (13): 72-79 (1959). In Russian. Through BCIRA 40: 1257 (1960). (2477)

The electronic apparatus described consists of a measuring bridge from wire resistances, an ac current generator, an amplifier, a demodulator, a capacitive correcting device and an oscillator. An increased working zone of the apparatus (including the carrier-frequency amplifier and the magneto-electric oscillograph) can be attained by using vibrators (type N-135-2) and/or the capacitive correcting means for the amplifier sensitivity. For measuring the instantaneous thread-tension changes (of the order of 0.001-0.0005 sec), it is necessary to use elastic transmitter elements consisting of symmetrical thin-walled sections (beam- or box-like or tubular) with maximum height and minimum cross-sectional area.

CONTINUOUS MEASUREMENT OF DYNAMOMETRIC VARIATIONS ALONG A THREAD AND INTERPRETATION OF THE CURVES OBTAINED. A. Marti, T. Belleli, and J. Romary. Bull. Inst. Textile France No. 84: 7-15 (Oct. 1959). In French. Through BCIRA 40: 1258 (1960). (2478)

It is shown that the results recorded during continuous testing of yarn depend upon the experimental conditions and that, for correct interpretation of the diagrams obtained, the respective readings should be multiplied by a correction factor which is a function of the angular coefficient of the curve at the point examined. The value of this factor varies according to whether the test has been effected at constant elongation or at constant tension. A general method for the correct interpretation of results obtained in continuous yarn testing is outlined.

TESTING THE FATIGUE BEHAVIOR OF TIRE CORDS VULCANIZED INTO RUBBER. K.-P. Mieck. Faserforsch. u. Textiltech. 10, No. 12: 578-587 (1959). In German. Through BCIRA 40: 1259 (1960). (2479)

The study was carried out to examine critically the De Mattia method for testing tire-cord fatigue and to determine all factors affecting the test results (sample preparation, vulcanization conditions, rubber mixture, elongation, duration of the stress). Experiments at varying stress-strain amplitudes showed that it is of advantage to carry out the test at the highest possible stress but at a low strain. In contrast to the views of other authors, determination of the strength and elongation in dependence of the duration of stress is shown to permit more accurate evaluation than determination of the breaking behavior. A quantitative relationship was established between the duration of stress and the residual strength. The cause of cord fatigue is examined.

Fabrics E3

MODULAR WEIGHTS AND LENGTHS: FUNDAMENTAL PARAMETERS OF THE FABRIC. G. Nordhammar (Swedish Inst. Textile Research). (Letter to the editor). Textile Research J. 30: 318 (Apr. 1960). (2480)

Since modular weights and lengths are independent of stress conditions, they are more suitable for fabric identification than the usual factors used, e.g. picks and ends per inch, weight per unit area, etc.

APPROACH TO AUTOMATION OF A WRINKLE RECOVERY TESTER. J. M. Sloan, C. H. Haydel, E. F. Schultz, Jr., and H. W. Weller, Jr. (So. Reg. Research Lab.). Am. Dyestuff Reptr. 49: 302-304 (May 2, 1960). (2481)

This paper describes the electronically operated mechanisms which have been employed in an initial approach toward the automation of a wrinkle recovery tester. It also reports data obtained with this automatic instrument in comparison with similar data obtained in the usual manner with the Monsanto wrinkle recovery tester. Photo, diagrs, tables, 4 refs.

PROBLEMS OF CLOTH INSPECTION. A. Cross and R. G. Newbery. Textile Recorder 77: 69-71, 79 (May 1960). (2482)

Critical examination of important factors, problems, and common shortcomings in cloth inspection. Photos, table, 8 refs.

THEORY OF FABRIC STRENGTH. PART 1. TENSION DISTRIBUTION IN THE FABRIC DURING THE TENSILE TEST. S. Nosek. Faserforsch. u. Textiltech. 10, No. 12: 573-577 (1959). In German. Through BCIRA 40: 1266 (1960). (2483)

In order to be able to calculate the tension distribution in a fabric sample prepared for tensile testing, it is necessary to know its state of deformation. Since, however, the fabric is a double-thread system, determination of the state of deformation is associated with great mathematical difficulties; therefore, in the method described, the fabric sample is replaced by a thin plate with infinitely small flexural rigidity, whose elasticity modulus E and Poisson constant m agree with those of the fabric sample. Maximum thread-tension components (transverse, tangential and longitudinal) in the fabric sample are calculated.

EMISSIVITY AND ABSORPTIVITY OF PARACHUTE FABRICS. J. P. Hartnett, E. R. G. Eckert, and R. Birkebak (Heat Transfer Lab., Univ. of Minn.). Am. Soc. of Mechanical Engineers, 29 W. 39 St., New York 18, N.Y. 1958. 6 p. ASME Paper 58-A-125. 80¢. (2484)

The parachute engineer requires sufficient information on the heat-transfer characteristics of geometries resembling those of parachutes and on the heat-transfer properties of the materials used to allow a calculation of the temperature history of a descending parachute. It is the purpose of this paper to describe the equipment which was used to measure the absorptivity for solar radiation and the long-wave-length emissivity for parachute materials and to report these data for a number of important parachute materials. Diagrs, micrographs, 11 refs.

SYSTEM OF DYNAMIC TESTING METHODS FOR HIGH POLYMER SOLIDS. PART 7. OTHER METHODS. F. Winkler. Faserforsch. u. Textiltech. 10, No. 12: 588-591 (1959). In German. Through BCIRA 40: 1268 (1960). (2485)

Methods for testing combined or not distinctly defined stresses (alternate tensile and bending stress, various alternate tensile stresses, stress as depending upon changes in properties occurring during the test) are reviewed, and a tester for bi-axial dynamic stresses in textile fabrics and foils (developed by the author) is described. 27 refs. (For previous part see abstr. 1088/60.)

TESTING THE USAGE VALUE OF UMBRELLA MATERIALS AND UMBRELLAS. W. Wegener and W. Gessner. Reyon Zellwolle Chemiefasern 9, No. 11: 750-754; No. 12: 817-821 (1959); 10, No. 1: 54-60; No. 2: 121-127 (1960). In German. Through BCIRA 40: 1405 (1960). (2486)

Results of experiments on various qualities of umbrella materials and on umbrellas made from them are reported. The umbrella materials (new and from used umbrellas) were tested on a tester operating according to the principle of constant elongation. Their shrinkage properties, tensile and bursting strength, and abrasion resistance were also determined. For previous part see abstr. 3863/59.

ASSESSMENT OF LIGHTFASTNESS EXPOSURES. K. McLaren (Imp. Chem. Inds. Ltd). (Letter to the editor). J. Soc. Dyers Colourists 76: 232 (Apr. 1960). (2487)

Other E4

DETECTION OF PROTEIN-CONTAINING SIZING AND FINISHING AGENTS ON FIBERS. A. Agster. Textil-Praxis 15, No. 2: 168-171 (1960). In German. Through BCIRA 40: 1247 (1960). (2488)

The most important and most used qualitative protein reactions (xantho-protein reaction, detection by means of Millons' reagent, biuret reaction, ninhydrin reaction, and staining with acid dyes) are described, and directions are given for carrying out a new identification test by using the chloramine/benzidine (blue color) reaction. This method can also be used for quantitative determinations by using for comparison fiber samples with known protein contents.

METHOD FOR DETERMINING NONIONIC SURFACE ACTIVE AGENTS IN OILS AND SOLVENT EXTRACTS FROM WOOL. B. C. Hobson and R. S. Hartley (Wool Inds. Research Assoc.). Analyst 85: 193-196 (Mar. 1960). (2489)

The nonanionic surface active agents are separated from fatty and mineral oils by passing an aqueous ethanolic dispersion of the sample through an alumina column and eluting with water. The nonionic compound passes through the column, whereas fatty materials are retained. The nonionic compound is determined in the eluate by precipitation with molybdophosphoric acid solution. Graphs, tables, 5 refs.

CREASE RESIST PROCESS: IDENTIFICATION OF AMINO-ALDEHYDES. J. T. Marsh. Textile Recorder 77: 72-74 (May 1960). (2490)

In this first of a series of articles, chemical tests for formaldehyde, urea, melamine, ethylene urea, and triazones, as well as spot tests for amino-aldehydes, are described. Tables.

APPARATUS FOR THE MEASUREMENT OF MOISTURE. Riv. Tessile 36: 59 (1960). In Italian. Through BCIRA 40: 1390 (1960). (2491)

The mechanism and technological characteristics of the Hasler hygroscope are described. The apparatus makes it possible to determine the moisture content of any product without previous weighing. The moisture content can be read off the dial of the apparatus after a relatively short drying time, at the end of which the heating device is disconnected automatically.

RAPID DETERMINATION OF THE SOLIDS CONTENT OF BRIGHTENING AGENTS, DRESSING AGENTS, SIZES, IMPREGNATING SOLUTIONS, AND VARNISHES. H. vom Hove. Melliand Textilber. 41, No. 3: 349-351 (1960). In German. Summary in BCIRA 40: 1407 (1960). (2492)

METHOD FOR MEASURING THE INTERFACIAL FORCES BETWEEN A WATER REPELLENT SURFACE STRUCTURE AND WATER, AND THEIR RELATIONSHIPS WITH THE WATER REPELLENT EFFECT. K. Hintzmann. Melliand Textilber. 41, No. 3: 341-344 (1960). In German. Through BCIRA 40: 1409 (1960). (2493)

A method is proposed for measuring the water repellent effect, in which the adhesion power of water, representing a measure of the interfacial tension between the finished fiber and water, is determined in dynes/cm by means of a torsion balance (interfacial tensiometer of Lecombe du Noüy). The force required to separate the water repellent surface from a water surface in contact with it is proportional to the effectiveness of the waterproofing agent, i.e. it decreases with increasing water repellency of the surface.

DESIGN OF A SINGLE ELECTRODE CAPACITOR FOR USE WITH MOISTURE METERS AND SIMILAR APPARATUS. D. F. Leach and J. M. M. Neilson (Brit. Jute Trade Research Assoc.). J. Sci. Instr. 37: 77-80 (Mar. 1960). (2494)

Measurements of the capacitance of a single cylindrical electrode in air have been made for each of the three variables, length, radius, and height above earth. The effect of surrounding it by dielectric masses of various sizes was also investigated, and the change of capacitance with increase in dielectric volume determined. The influence of these factors when designing a capacitor of this type is discussed. This electrode has been successfully used for measuring the moisture content of textile packages, and could be used for similar applications involving measurement of dielectric properties. Diagrs, graphs.

IDENTIFICATION OF DYES IN SUBSTANCE AND ON THE FIBER. L. Hoffmann. Spinner u. Weber 78, No. 2: 40-45; No. 3: 182-187 (1960). In German. Through BCIRA 40: 1400 (1960). (2495)

In this review the author discusses methods for determining the homogeneity of dyes, for ascertaining the dye class, and for identifying the dye on cellulosic, protein, polyamide, polyacrylonitrile and polyester fibers. Fiber blends must first be examined microscopically and the components identified chromatographically. Any resin deposits must be removed before testing. 14 refs.

MILL MANAGEMENT F

Industrial engineering F1

COMING: THE PUSH-BUTTON COTTON MILL? R. A. Rusca (So. Reg. Research Lab.). Textile World 110: 46-47 (May 1960). (2496)

A continuous, automatic processing system controlled by a series of electronic sensing devices to synchronize the various stages from individual cotton bales to fabric packaging is envisioned based on a planned research program.

MATHEMATICS, COMPUTERS, OPERATIONS RESEARCH, AND STATISTICS. R. C. Johnson and others. Ind. Eng. Chem. 52: 359-367 (Apr. 1960). (2497)

An I/EC chemical engineering fundamentals review of the literature of 1959. 250 classified refs.

INTEGRATED COST REDUCTION. Textile World 110: 31-35 (May 1960). (2498)

An organized cost reduction program which follows a definite plan, involves all the key operations of the mill, and includes all mill personnel is described.

PROCESS CONTROL INSTRUMENTS: THEIR DESIGN AND APPLICATION. Fibres and Plastics 21: 138-140 (May 1960). (2499)

The development of simple and inexpensive instruments, together with various control systems, is described. Photos, diagr.

MATERIALS HANDLING. B. S. Seshadri. Textile Dig. 20: 149-157 (Oct.-Dec. 1959). (2500)

Suggestions for improved materials handling in Indian cotton mills. Diagrs, 9 refs.

BASIC PRINCIPLES OF WORK MOTION ECONOMY. B. Frank. Knitted Outerwear Times 28: 7, 49 (Apr. 18, 1960). (2501)

HOW MILLS CAN MEASURE AND REDUCE INDIRECT LABOR COSTS. H. B. Maynard. Am. Textile Reptr. 74: 9-10, 29-30 (Apr. 28, 1960). (2502)

The use of work measurement techniques for bringing indirect labor costs under control is discussed.

SIMPLE PROCEDURES ESTABLISH REALISTIC TOLERANCES. N. L. Enrick (Inst. Textile Technol.). Machinery: 109-111 (May 1960). (2503)

A simple formula is given for realistic analysis of tolerances, leading to lower production costs at no loss in quality of final product. Illustrations of the formula are taken from various applications, including product weight and plastic coating. The principles, while presented with a view to metalworking applications, would also be applicable to textile processing and finishing.

STATISTICAL QUALITY CONTROL: CONTROL CHARTS. E. Schindowski and O. Schurz. VEB Verlag Technik, Berlin. 1959. 343 p. In German. (2504)

This book presents applications of all types of control charts, using several textile spinning and weaving illustrations, as well as illustrations from garment production.

WHICH WAY TO TOP PROFIT? L. B. Sheifer. Textile World 110: 40-42 (May 1960). (2505)

A method of charting the best way of scheduling production to achieve maximum profit from a given mill's capacity is described. The example given involves a mill producing five-count and coarse-count worsted from grease wool.

APPROACH TOWARDS REEQUIPMENT. PART 1. COURSE OF ACTION. PART 2. PRACTICAL APPLICATION. K. W. Bradshaw and G. A. Whittaker (Smith & Nephew Textiles Ltd). Textile Weekly 60 (1): 1049-1064 (Apr. 29, 1960). (2506)

By an analysis of market conditions, the product to be manufactured, the money needed, and the management changes required for reequipment, a sound foundation for reequipment can be established. A practical application of this general approach is included.

MILL CHECK-UP. PART 4. FOUR SIGNS OF TROUBLE IN THE CARD-ROOM OPERATION. A. L. Landau (Saco-Lowell Shops). Textile World 110: 248-249 (May 1960). (2507)

Checklist for spotting potential trouble areas at the cards. Photos.

Plant and equipment F2

FIRE CONTROL IN RURAL AREAS. Textile World 110: 50 (May 1960). (2508)

The major causes of fire are tabulated, and a design for safety outlined.

COTTON MILL MODERNIZATION. Textile Inds. 124: 179-181 (May 1960). (2509)

The changes fostered in spooling, warping, slashing, and weaving by the introduction of large package Gwaltney spinning frames are described. Photos.

MAGNETIC AMPLIFIERS POWER NEW RANGE DRIVES. Textile World 110: 54-55 (May 1960). (2510)

The advantages of a magnetic amplifier system for converting three phase ac to controlled adjustable voltage dc are described. Photos.

AUTOMATIC LUBRICATION. J. H. Johnson (Roxbury Carpet Co.). Textile World 110: 43-45 (May 1960). (2511)

The benefits accruing from a centralized, automatic lubrication system are described and illustrated. Photos.

SCIENCES G

Chemistry G1

ROLE OF CYSTINE IN THE STRUCTURE OF WOOL KERATIN. S. Blackburn. Reply: C. Earland and A. Wiseman. (Letters to the editor). J. Textile Inst. 51: T172-T173 (Apr. 1960). (2512)

STRUCTURE VERSUS ELEVATED TEMPERATURE PERFORMANCE OF EPOXY RESINS. J. Wynstra, A. G. Farnham, N. H. Reinking, and J. S. Fry. Modern Plastics 37: 131-136, 190 (May 1960). (2513)

This is a report on tests conducted to find out if resins with a higher functionality than the bisphenol A and epichlorohydrin type will raise service temperature of laminates significantly. Curing agents were also considered.

STUDIES IN WAXES. PART 14. AN INVESTIGATION OF THE ALIPHATIC CONSTITUENTS OF HYDROLYZED WOOL WAX BY GAS CHROMATOGRAPHY. D. T. Downing, Z. H. Kranz, and K. E. Murray. Australian J. Chem. 13: 80-94 (Feb. 1960). (2514)

SUGGESTED SPECIFICATIONS FOR LIQUID DRY-CLEANING DETERGENT. J. B. Schapiro (Dixo Co.). Soap Chem. Specialties 36: 71-72, 259-260 (May 1960). (2515)

ESTERS FORMED BY THE CELLULOSE MOLECULE WITH FATTY ACIDS. A. Bouvard. Industrie Textile: 857-861 (Dec. 1959); 49-52 (Jan. 1960). In French. Through BCIRA 40: 1229 (1960). (2516)

In this review, the author examines the fatty acid/cellulose esters with more than three carbon atoms; esters obtained by transesterification; partially degraded esters; conversion by depolymerization of insoluble esters into soluble products; polyacid esters; esters with nitrogen-, phosphorus- or chlorine-containing groups; esters with acyls of lower or higher fatty acids (derivatives of acetylcelluloses); esters with acyls of different higher acids; esters of cellulose ethers, and uses of the various compounds (waterproofing, flameproofing, etc.). Reference is made to the respective literature and patents.

FRACTIONATION OF FIBER-FORMING POLYMERS. M. Laczkowski and J. Melon. Faserforsch. u. Textiltech. 11, No. 1: 1-6 (1960). In German. Through BCIRA 40: 1397 (1960). (2517)

In the experiments described, the phenol/tetrachlorethane/n-heptane system and the phenol/methyl alcohol/water system were used for the fractionation of polyethylene/glycol/terephthalate and ϵ-polycaprolactam, respectively. The results show the advantages of combining the method of distribution between liquid phases with total fractionation (without separating the individual fractions) and registration of the differential molecular-weight distribution curve without graphical differentiation of the integral curve. 28 refs.

CLEANING EFFICIENCY OF HOME LAUNDERING DETERGENTS. R. L. Galbraith (Univ. of Illinois). J. Home Econ. 52: 353-359 (May 1960). (2518)

Tests were made on the cleaning efficiency of 24 detergents representing 6 different formulation types, and the effect of washing temperature, detergent concentration, and water hardness on the soil removed from fabrics made from cotton, viscose rayon, nylon, Orlon, Dacron, and wool was measured. The whiteness-retaining power of these detergents was also tested. Graphs, tables, 17 refs.

LAUNDERING SHRINKAGE OF FABRICS CONTAINING WOOL. R. L. Galbraith and J. L. Dietemann (Univ. of Illinois). J. Home Econ. 52: 359-361 (May 1960). (2519)

In this study of the effect of type of detergent and washing temperature on the shrinkage of fabrics containing wool, it was concluded that neither type of detergent nor washing temperature under the conditions of this study had any significant effect on the shrinkage of the chlorinated or blended fabrics. Additional evidence indicating the extreme importance of severity of agitation or handling as a cause of wool shrinkage was obtained. Tables, 9 refs.

STUDIES IN THE DEVELOPMENT OF ANTIBACTERIAL SURFACTANTS. PART 1. INSTITUTIONAL USE OF ANTIBACTERIAL FABRIC SOFTENERS. W. M. Linfield, J. C. Sherrill, R. E. Casely, D. R. Noel, and G. A. Davis (Armour & Co.). J. Am. Oil Chemists Soc. 37: 248-251 (May 1960). (2520)

It has been determined that the incorporation of a highly active antibacterial agent, phenylmercuric propionate, into an aqueous solution of a fabric softener of the quaternary ammonium type results in a most effective antibacterial laundry rinse additive. The presence of the quaternary ammonium compound appears to enhance the antibacterial activity of the mercurial. The formulated antibacterial softener as well as the treated linens appear to be entirely safe to humans. In longer term application tests in a hospital laundry the total bacterial load carried by the soiled treated linens is practically zero. There is no excessive buildup of antibacterial agent on fabric upon repeated applications, and it is readily washed out of the fabric by conventional laundering. Tables, 7 refs.

STUDIES IN THE DEVELOPMENT OF ANTIBACTERIAL SURFACTANTS. PART 2. PERFORMANCE OF GERMICIDAL AND DEODORANT SOAPS. W. M. Linfield, R. E. Casely, and D. R. Noel (Armour & Co.). J. Am. Oil Chemists Soc. 37: 251-254 (May 1960). (2521)

It has been shown that mixtures of hexachlorophene and trichlorocarbanilide or bithionol and trichlorocarbanilide in soap show a marked synergism with respect to antibacterial properties. In both cases the approximate ratio of 50/50 of the two components represents an optimum. Nonionic detergents enhance the antibacterial activity of trichlorocarbanilide in vitro when present at relatively low levels. At higher levels of nonionic the antibacterial agent is neutralized and loses its effectiveness. Tables, 9 refs.

ESTIMATION OF SOIL REDEPOSITION BY DETERGENTS. PART 2. A. R. Martin and R. C. Davis (Whirlpool Corp.). Soap Chem. Specialties 36: 73-76, 255 (May 1960). (2522)

ELECTRON-MICROSCOPIC REPRESENTATION OF THE LENGTH PERIOD IN PERLON AND ITS RELATIONS TO COLLAGEN STRUCTURE. K. Hess, E. Gütter, and H. Mahl. Kolloid Z. 168, No. 1: 37-49 (1960). In German. Through BCIRA 40: 1252 (1960). (2523)

Experiments showed that technical Perlon filaments are comparable to the state of orientation of procollagen fibrils before their union into collagen fibrils.

REVIEW OF FUNDAMENTAL DEVELOPMENTS IN ANALYSIS: CHEMICAL MICROSCOPY. G. Coven and R. Cox (Am. Cyanamid Co.). Anal. Chem. 32: 87R-91R (Apr. 1960). (2524)

A review with 121 references.

A DURABLE ANTISTATIC FINISH FOR SYNTHETIC FIBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Jan. 1960. 3 p. Bull. X-114. Free. (2525)

Aston 123 is co-applied with a polyepoxide such as Eponite 100. The finish is simply padded and dried.

Physics G2

SOME DEVELOPMENTS IN WOOL CHEMISTRY. R. L. Elliott (Bradford Inst. Technol.). Dyer 123: 493-494 (Mar. 25, 1960). (2526)

Recent work on the chemistry of the sulfur-containing portion of the wool fiber is summarized.

EFFECT OF SULFURIC ACID ON WOOL. PART 4. SOME FURTHER OBSERVATIONS OF THE REACTION WITH CONCENTRATED ACID. R. L. Elliott, R. S. Asquith, M. E. P. Hopper, and D. H. Rawson (Bradford Inst. Technol.). J. Soc. Dyers Colourists 76: 222-225 (Apr. 1960). (2527)

The following types of wool have been treated with concentrated sulfuric acid--virgin wool, dinitrophenylated wool, and deaminated wool. Subsequent analyses of the treated wools have shown clearly that the amino groups do not give covalent sulfamic acid derivatives, but that the aliphatic hydroxyl groups react rapidly to give sulfate esters. Serine and threonine analyses of treated wools after reaction with sulfuric acid support the theory that an O-peptidyl rearrangement occurs. The mechanism proposed for this rearrangement has been modified, and it is suggested that it proceeds through the aliphatic sulfate ester grouping primarily introduced into the wool. Tables, 14 refs.

DEFECTIVE COLOR VISION: COMPARISON OF A COLOR VISION TEST MADE FROM DYED WOOL PATTERNS WITH THE ISHIHARA TEST. J. G. Wain (Huddersfield Coll. Technol.). J. Soc. Dyers Colourists 76: 181-184 (Mar. 1960). (2528)

The Wain Dichroic-ladder test and the Ishihara test have been used to test 409 males. Of those tested, 9% were found to be defective by the Ishihara test. Statistical analysis of the results obtained from the Wain test showed that a further 3% of the observers could be regarded as having some form of color defect. The new test was constructed so that it subtended an angle of 10° at the eye. Comparison of the observers' matches with the plots of the predicted matches suggests that the short-wavelength receptors of the retina extend at least up to the boundary of the 10° field. Graphs, 4 refs.

LIGHT ABSORPTION SPECTROMETRY: REVIEW OF FUNDAMENTAL DEVELOPMENTS IN ANALYSIS. M. G. Mellon and D. F. Boltz. Anal. Chem. 32: 194R-210R (Apr. 1960). (2529)

A review of the period July 1957 to Sept. 1959. 746 refs.

ULTRAVIOLET SPECTROPHOTOMETRY: REVIEW OF FUNDAMENTAL DEVELOPMENTS IN ANALYSIS. R. C. Hirt (Am. Cyanamid Co.). Anal. Chem. 32: 225R-229R (Apr. 1960). (2530)

A review (1957-1959) with 152 refs.

REFLECTANCE SPECTROPHOTOMETRIC DETERMINATION OF SOLUBLE IRON IN DELUSTERED ACRYLIC FIBERS. M. E. Gibson, Jr., D. A. Hoes, J. T. Chesnutt, and R. H. Heidner (Chemstrand Corp.). Anal. Chem. 32: 639-642 (May 1960). (2531)

Graph, tables, 15 refs.

LANCE STATIC CONTROL UNIT. Coates Smith Ltd. Textile Merc. 142: 419, 421 (Mar. 25, 1960). (2532)

The operation and application of the unit to warping, finishing, and warp knitting are described.

NUCLEONICS: REVIEW OF FUNDAMENTAL DEVELOPMENTS IN ANALYSIS. W. W. Meinke (Univ. of Mich.). Anal. Chem. 32: 104R-136R (Apr. 1960). (2533)

A review (1957-1959) with 1059 references.

AUTOMATIC AND RECORDING BALANCES: REVIEW OF FUNDAMENTAL DEVELOPMENTS IN ANALYSIS. S. Gordon and C. Campbell. Anal. Chem. 32: 271R-289R (Apr. 1960). (2534)

A review with 165 references.

IRRADIATION OF POLYMERS. A. Quinton. Fibres and Plastics 21: 147-148 (May 1960). (2535)

The radiation changes brought about in polymers by cross-linking and degradation are discussed.

Biology G3

MICROBIAL DEGRADATION OF COTTON CELLULOSE IN SOIL. S. S. Nigam, S. K. Ranganathan, S. R. Sen Gupta, R. K. Shukla, and R. N. Tandan. J. Sci. Ind. Research (India) 19C: 20-24 (Jan. 1960). (2536)

The microbial degradation of cotton cellulose buried in soil has been studied, the various bacteria and fungi isolated from the soil, and the buried cotton cellulose specimens identified. Bacteria and actinomycetes are largely present during the initial stages of degradation and cause considerable decay; the fungi appear later and complete the process of degradation. The optimum moisture content of soil for the degradation of cotton cellulose is 25-30%. Tables, 15 refs.

PHYSIOLOGY OF SKIN AND ITS IMPORTANCE FOR CLOTHING. H. Kost. Melliand Textilber. 41, No. 3: 344-349 (1960). In German. Through BCIRA 40: 1411 (1960). (2537)

Processes taking place on the skin surface and inside the human body are discussed, and it is shown that the most important function of the skin consists in the supply of atmospheric oxygen to the cell enzymes and to the nerve terminals, and that the main task of underwear is not to disturb this function. The extent to which this postulate is met is a measure of the hygienic properties of clothing.

CONSIDERATIONS ON THE IDEA OF COMFORT, ESPECIALLY FROM THE VIEWPOINT OF WARMTH. M. Bergstrom-Nielsen. Tidsskr. Textiltek. 18, No. 2: 9-17 (1960). In Danish. Through BCIRA 40: 1410 (1960). (2538)

The physiological, technological, and psychological aspects of the concept of body comfort are reviewed, with reference to the processes on which the temperature adjustment of the organism is based. Certain chemical factors affecting body comfort are mentioned, and the heat-insulating properties of fabrics are discussed. 19 refs.

EVALUATION OF FUNGICIDAL VINYL COATED COTTON DUCK. J. K. Frederick, Jr., R. E. Otto, and D. H. Pfister (Lowell Technological Inst.). Wright Air Development Center, Wright-Patterson Air Force Base, Ohio. June 1958. 49 p. WADC tech. report 57-366. (2539)

This investigation was concerned with determining the effect of shelf storage or outdoor exposure for periods of four, six, ten, and twelve months followed by soil burial for two weeks upon the breaking and tearing strengths, low temperature flexibility, gasoline resistance, hydrostatic pressure resistance, weathering resistance, high temperature blocking, and color of 8.0 oz vinyl coated cotton duck containing in the fabric or in the coating various fungicides. In addition to the fungicides, some of the fabrics contained a stabilizer designed to prevent light deterioration.

EFFECT OF CELLULASE ON COTTON FIBER MICROSTRUCTURE. PART 1. DEGRADATION BY CELLULASE IN FUNGAL GROWTH FILTRATES. B. R. Porter, J. H. Carra, V. W. Tripp, and M. L. Rollins (So. Reg. Research Lab.). Textile Research J. 30: 249-258 (Apr. 1960). (2540)

Electron microscopical studies of changes in cotton fiber microstructure, after exposure of the fibers to the cellulase in filtrates prepared from cultures of Myrothecium verrucaria, are reported. Measurements of changes in tensile strength, swelling in alkali, and in glucose yield were correlated with changes in microstructure. The extent of fiber degradation by cellulolytic culture filtrates was limited and could be continued only if fibers were swollen between filtrate exposures. No evidence of damage to the cellulose structure was seen which could not be explained by hydrolysis at the β-1,4-glucosidic linkage. Photomicrographs, graph, tables, 23 refs.

EFFECT OF CELLULASE ON COTTON FIBER MICROSTRUCTURE. PART 2. DEGRADATION DURING GROWTH OF CELLULOLYTIC MICROORGANISMS. B. R. Porter, J. H. Carra, V. W. Tripp, and M. L. Rollins (So. Reg. Research Lab.). Textile Research J. 30: 259-267 (Apr. 1960). (2541)

Electron microscopical studies were made of changes in cotton fiber microstructure on samples from cultures of the bacterium Cellvibrio fulvus and the fungus Myrothecium verrucaria. Cottons modified to produce a more expanded microstructure with higher amorphous cellulose content showed large decreases in resistance to microbial attack. Attack by growing microorganisms was more intense and rapid than degradation by growth filtrates obtained from cultures of cellulolytic fungi, but the mode of degradation was similar. Photomicrographs, graphs, table, 9 refs.

USE OF RADIOACTIVE ISOTOPES IN THE TEXTILE INDUSTRY. E. Frieser. Reyon Zellwolle Chemiefasern 9, No. 12: 808-816 (1959). In German. Through BCIRA 40: 1069 (1960). (2542)

This review is an extension of that published previously (see abstr. 993/59). 47 refs.

MISCELLANY H

AMERICAN TEXTILE MACHINERY EXHIBITION INTERNATIONAL. Textile Recorder 77: 80-91 (May 1960). (2543)

TEXTILE TERMS. Inst. Textile de France. Bull. Inst. Textile France No. 84: 97-112 (Oct. 1959). In French. Through BCIRA 40: 1300 (1960). (2544)

The alphabetic list of French terms and their English equivalents, published in 1957 on the basis of the Textile Institute's Textile Terms and Definitions, is supplemented by additions to or modifications of the terms given in the previous list.

CHANGES IN AMERICAN TEXTILE INDUSTRY: COMPETITION, STRUCTURE, FACILITIES, COSTS. L. D. Howell. U. S. Dept. of Agri., Washington, D. C. Nov. 1959. 337 p. Technical bull. no. 1210. Superintendent of Documents, Washington 25, D. C. $1.00. (2545)

GREEK COTTON TEXTILE INDUSTRY. N. Primentas (Melbourne Textile School). J. Textile Inst. 51: P186-P190 (Apr. 1960). (2546)

Data on cotton varieties and their characteristics, consumption, imports, and exports are given, and the structure of the industry is described. Tables, 9 refs.

LOWELL TECHNOLOGICAL INSTITUTE GRADUATE THESES, 1958-1959. Bull. Lowell Technol. Inst., Series 63, No. 3, Feb. 1960. 11 p. (2547)

Abstracts are given of the following Master's theses for 1958-1959: Some azo-triazine dyes containing silicon, by C. F. Genzabella; Dye concentration gradient in the fiber, by C. H. Park; Optimum conditioning of fabric for resin treatment, Part 2, by J. W. Rhee; A study of air flow through short plugs of parallel fibers as a means of estimating fiber fineness, by B. S. Ahn; Engineering data on woolen yarns, by S. Epstein; A study of the effect of twist upon the properties of a plain-weave fabric made of cotton, by J. M. Fontanilla; A study of the effect of twist-on-twist ply constructions upon the ply yarn characteristics made from 8s cotton yarn, by A. Y. Mahmoud; The effect of yarn tension upon some of the geometrical and physical properties of knitted fabrics, by S. K. Pak.

MILAN IN REVIEW. Textile Weekly 59(2): 591-630 (Sept. 25, 1959). (2548)

An assessment of some exhibits, p. 591-594; Italian machinery at Milan, p. 595-598, 615-625; French, German, and Swiss machinery, p. 625-630.

PREVIEW OF AMERICAN TEXTILE MACHINERY EXHIBITION-INTERNATIONAL 1960. Textile Inds. 124: 143-178 (May 1960). (2549)

TEXTILE EXECUTIVES DISCUSS EDUCATION. B. W. Hayward (Philadelphia Textile Inst.). Textile Inds. 124: 205-207, 257, 302-307 (May 1960). (2550)

Results of a survey of the attitudes of textile industry executives on how well the textile colleges are meeting the needs of the industry are presented.

SEASONAL ADJUSTMENTS AND CYCLICAL MOVEMENTS FOR THE RATIO OF STOCKS TO UNFILLED ORDERS FOR COTTON BROADWOVEN GOODS. F. Lowenstein. Cotton Situation No. 186: 19-24 (Jan. 1960). (2551)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

ROTARY KNIFE COTTON GIN. S. J. Jennings (to Community Gin Co.). USP 2 933 770, Apr. 26, 1960. (2552)

Manmade fibers A2

POLYPHENOLIC POLYMER DYE RESISTING AGENTS FOR ACRYLONITRILE POLYMER BASE FIBERS. A. R. Wirth, A. S. Messer, and A. M. Partansky (to Dow Chem. Co.). USP 2 931 694, Apr. 5, 1960. W. M. Blankenship and A. R. Wirth. USP 2 931 695. A. R. Wirth and A. S. Messer. USP 2 931 696. A. R. Wirth, F. H. Norton, and A. S. Messer. USP 2 931 697. A. S. Messer and A. R. Wirth. USP 2 931 698. (2553)

Acrylic fibers resistant to dyeing in blends with cellulose and protein fibers are obtained by modification with the polyphenolic polymer reserving agents claimed.

COMPLEX ARTIFICIAL FILAMENTS. H.-J. Dietzsch and O. Dietzsch (to Trikotfabriken J. Schiesser AG). USP 2 932 079, Apr. 12, 1960. (2554)

Filaments of uniform cross section comprise two cores of different spinning materials embedded in a sheath body of a third spinning material.

ACID PRETREATMENT OF ACRYLIC FIBERS FOR IMPROVED DYE AFFINITY. L. L. Walmsley (to Chemstrand Corp.). USP 2 932 550, Apr. 12, 1960. (2555)

METHOD OF PRODUCING ALL SKIN VISCOSE RAYON. B. A. Thumm (to Am. Viscose Corp.). USP 2 932 578, Apr. 12, 1960. (2556)

Small amounts of alkali soluble alkylene oxide adducts of 2-aminopyridine are added to the spinning solution.

FLAMEPROOF CELLULOSE ACETATE FIBERS. R. C. Harrington, Jr. and J. L. Smith (to Eastman Kodak Co.). USP 2 933 402, Apr. 19, 1960. (2557)

Amphoteric metal salts of aluminum, titanium, or tin bis(β-chloroethyl) phosphate are incorporated in the spinning solution.

YARN PRODUCTION B

FLEXIBLE SLEEVE FOR TRAVELING CLEANER. G. B. Holtzclaw (to Parks-Cramer Co.). USP 2 931 061, Apr. 5, 1960. (2558)

CRIMPING APPARATUS FOR NYLON TOW. H. H. Weinstock, Jr. (to Allied Chem. Corp.). USP 2 933 771, Apr. 26, 1960. (2559)

Restricted passage for guiding the filament tow into the nip of the feed rolls leading to the crimping chamber.

Opening, picking, fiber preparation B1

FIBER CLASSIFYING MACHINE. A. Boer (to Bancroft-Brillotex Intern. SA). USP 2 931 070, Apr. 5, 1960. (2560)

Mechanism for sorting out fibers according to their length by means of a gripping or pulling operation which successively separates the fibers into bundles of decreasing length.

COTTON FIBER CLEANER. R. C. Young and R. A. Rusca (to U. S. Secy. Agri.). USP 2 931 071, Apr. 5, 1960. (2561)

COTTON FIBER CLEANER. J. I. Kotter and M. Mayer, Jr. (to U.S. Secy. Agri.). USP 2 934 793, May 3, 1960. (2562)

Carding and combing B2

HOPPER FEEDERS FOR CARDING MACHINES. N. Taylor (to F. W. Taylor & Son Ltd). BP 826 409, Jan. 6, 1960. Through BCIRA 40: 1188 (1960). (2563)

In a hopper feeder of the weighing type, each weighed batch is deposited in a second weigh pan, for checking, instead of on the feed lattice or the like. If the position taken up by the weigh beam is not what it should be, an electrical condenser device or a photoelectric device is actuated and used to delay the feed (by reducing the driving speed) until the necessary correction is made. The electrical impulses are stored by a magnetic tape until a previous batch has been delivered.

STRIPPING ROLLS FOR REVOLVING FLAT CARDING ENGINES. R. Hattori and T. Okukawa (Japan). USP 2 933 772, Apr. 26, 1960. (2564)

NYLON WEB DIVIDING CONDENSER TAPES. H. Siegling (Germany). USP 2 933 775, Apr. 26, 1960. (2565)

Condenser tape composed of three layers of nylon of varying composition welded together.

Drawing and roving B3

GILL BOX NEEDLE BARS. J. J. Keyser (to Schiess AG). USP 2 934 795, May 3, 1960. (2566)

Method of arranging two or more identical needle bars which makes it possible to build up a great variety of needle fields.

ROVING FRAME FLYER. G. Taylor, A. Taylor, and S. Mann (to G. Taylor & Son). BP 818 747, Aug. 19, 1959. Through BCIRA 40: 1189 (1960). (2567)

The lateral hole in the presser through which the roving passes is of frusto-conical form, and constrictions in the material of the presser serve to guide the roving into the wider end of the hole and from the narrower end to the bobbin.

TEXTILE DRAFTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 827 496 and 827 498, Feb. 3, 1960. Through BCIRA 40: 1336 (1960). (2568)

These inventions relate to drafting mechanism of the type in which the top rolls are mounted on a carrier arm pivoted to a bracket for raising or lowering or swinging laterally. (1) Means for ensuring that the spring-loaded latch that holds the arm in the operative position functions correctly. (2) The bracket is divided into a lower portion secured to a supporting bar and held against lateral swinging, and an upper portion (carrying the top roll arm) that can swing laterally in a plane parallel to the drafting field.

FRICTIONLESS CRADLE UNIT FOR APRON TYPE DRAFTING APPARATUS. B. C. Cole (to U. S. Small Business Admin.). USP 2 932 068, Apr. 12, 1960. (2569)

Cradle positioned between the front and middle line roll units which does not contact any of the drafting rolls and eliminates the need for lubrication.

SLIVER DRAFTING APPARATUS. T. Kawabata (Japan). USP 2 932 858, Apr. 19, 1960. (2570)

Guiding and feeding device in which the sliver undergoing draft is confined and urged forward by a series of slide pieces moving back and forth in an out-of-phase relationship.

DRAFTING ROLL COVERS. J. Rockoff (to Dayton Rubber Co.). USP 2 932 859, Apr. 19, 1960. (2571)

Non-eyebrowing cot composed of a vulcanized synthetic rubber in which minor amounts of siliceous particles have been dispersed with a surface having cavities formed by the removal of these particles.

BOTTOM DRAFTING ROLLER STAND COVER. J. Noguera (to Casablancas High Draft Co. Ltd). USP 2 933 773, Apr. 26, 1960. (2572)

Bottom roller stand cover which forms a protective shield over the stand bearings and bottom roller necks and which provides lubrication for the roller necks.

TOP DRAFTING ROLL SUPPORT AND WEIGHTING MECHANISM. G. B. Ingraham and J. L. Truslow (to Saco-Lowell Shops). USP 2 934 796, May 3, 1960. (2573)

In a drafting frame having a long lower apron structure including a lower apron bar, the apron bar provides the alignment and support for the top rolls to permit self alignment with the bottom rolls.

SUCTION CLEARER FOR FLUTED DRAFTING ROLLS. M. G. Whitehurst and J. R. Whitehurst (to Ideal Inds.). USP 2 934 797, May 3, 1960. (2574)

METHOD OF INCREASING FIBER LENGTH ON THE DRAWING FRAME. M. G. Whitehurst and J. R. Whitehurst (to Ideal Inds.). USP 2 935 435, May 3, 1960. (2575)

The average staple-length of fibers during drafting is increased by driving fluted drafting rolls mounted in bearings at high speeds while directing a high velocity air stream against the bearings and rolls to cool them and remove loose short fibers, lint, and foreign matter.

Spinning, winding, twisting B4

DOUBLE BELT DRAFTING MECHANISM FOR SPINNING MACHINES. Schiess AG. BP 826 902, Jan. 27, 1960. Through BCIRA 40: 1190 (1960). (2576)

The invention relates to means for pressing the belts together in the region where the fibers are drafted.

LUBRICATED HIGH SPEED RINGS AND TRAVELER FOR TWISTER FRAMES. J. R. Mulholland. USP 2 925 705, Feb. 23, 1960. (2577)

Ring with a lubricant channel formed on its inner face and means responsive to engagement by the traveler in such a manner that the speed of the traveler will influence lubricant flow.

CONDENSING FUNNEL SUPPORT IN A DRAFTING ARRANGEMENT FOR A SPINNING MACHINE. M. Graf (to J. J. Rieter & Co. Ltd). USP 2 931 073, Apr. 5, 1960. (2578)

APRON TYPE DRAFTING APPARATUS FOR LONG OR SHORT FIBERS. J. Noguera (to Casablancas High Draft Co. Ltd). USP 2 931 074, Apr. 5, 1960. (2579)

In an apparatus employing superposed endless aprons for the alternative drafting of long or short fibers, the top rolls are adapted to receive varying weighting pressures in accordance with the fiber length.

BOBBIN HOLDER. L. W. Pray (to Saco-Lowell Shops). USP 2 931 593, Apr. 5, 1960. (2580)

Latching mechanism for suspending a bobbin in the creel of a spinning or roving frame is contained within a cylindrical casing or barrel and is actuated by the movement of the bobbin itself.

CREEL BOBBIN HOLDER FOR SPINNING MACHINES. J. Noguera (to Casablancas High Draft Co. Ltd). USP 2 931 594, Apr. 5, 1960. (2581)

DRAFTING ROLL CRADLE FOR A SPINNING MACHINE. N. Arakawa (Japan). USP 2 932 067, Apr. 12, 1960. (2582)

Means for automatically releasing the top cradle from the bottom cradle during abnormal winding of sliver on the roller, or for changing the pressure on the rollers by a single operation.

SCAVENGER ROLL AND SUCTION FLUTE HOLDER FOR SPINNING FRAMES. A. H. Bahnson, Jr. (to Wachovia Bank & Trust Co.). USP 2 934 884, May 3, 1960. (2583)

APPARATUS FOR STRESSING STRAND MATERIALS IN WINDING A SELF-SUSTAINING PACKAGE. F. Honig. USP 2 932 077, Apr. 12, 1960. (2584)

The package is wound in such a way that it will resist the bursting action of centrifugal force when it is rotated at high speeds.

CURL REMOVER FOR SPINDLES. R. M. Ingham, Jr. (to Deering Milliken Research Corp.). USP 2 932 149, Apr. 12, 1960. (2585)

Arrangement for removing curls formed on spindles beneath the lower end of the bobbin which is operable at a selected time after the beginning of the spinning, twisting, or winding operation.

YARN TENSION CONTROL MEANS FOR MULTIPLE TWIST SPINDLE. J. V. Keith (to Leesona Corp.). USP 2 932 150, Apr. 12, 1960. (2586)

DRAW TWISTING APPARATUS. R. C. Jackson (to Chemstrand Corp.). USP 2 932 152, Apr. 12, 1960. (2587)

In a twisting device for a draw twister, the yarn is guided onto a yarn bobbin around a magnetically suspended annular member, so that twist is introduced simultaneously with winding.

CONTINUOUS GLASS FIBER WINDING APPARATUS. N. P. Kimberly (to L. O. F. Glass Fibers Co.). USP 2 932 461, Apr. 12, 1960. (2588)

BALLOON CONTROL MANTLE FOR DOUBLE TWIST SPINDLES. K. A. Landolt (Switzerland). USP 2 932 936, Apr. 19, 1960. (2589)

The anodized aluminum mantle claimed also serves to support magnets on its exterior surface to hold the nonrotating member supporting the balloon in position.

COMPOSITE SPINNING RINGS. H. B. Atwood (to Herr Mfg. Co.). USP 2 932 937, Apr. 19, 1960. (2590)

The rings are made partly of a powdered and sintered metal and partly of high grade steel, so that the steel portion is supplied with lubricant from the porous sintered metal portion.

BOBBIN. H. C. Kennedy. USP 2 933 263, Apr. 19, 1960. (2591)

Reusable bobbin with a barrel which is freely reducible when subjected to stresses produced by the shrinkage of yarn windings.

Yarns B5

BULK YARN APPARATUS. F. C. Field, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 931 090, Apr. 5, 1960. (2592)

Intermittent or random bulkiness is imparted to continuous multifilament yarns by intermittently and randomly varying the rate of feeding the yarn through a turbulent atmosphere.

APPARATUS FOR PRODUCING STRETCH YARN. C. G. Evans (to Deering Milliken Research Corp.). USP 2 931 089, Apr. 5, 1960. (2593)

The blade employed in the edge elasticizing process described is formed from sintered oxide particles of colloidal size at least 80% of which are aluminum oxide.

CRIMPED FILAMENT. A. L. Breen (to E. I. du Pont de Nemours & Co.). USP 2 931 091, Apr. 5, 1960. (2594)

Helically crimped filament composed of a polyester and a polyamide polymer having different recovery properties in a sheath-core relationship with each other, the polyamide being the load-bearing constituent and appearing at the inner portion of the helical coil.

NYLON TIRE CORD PACKAGE AND BINDING DEVICE. A. R. Hartsfield, J. W. Kessler, and J. H. Moran (to Chemstrand Corp.). USP 2 932 388, Apr. 12, 1960. (2595)

Nylon straps for maintaining the protective wrapper of a nylon tire cord package in tight relationship with the cord throughout changes in package diameter.

APPARATUS FOR THE PRODUCTION OF BULK YARN. A. Richmond and A. H. Gentle (to Brit. Celanese Ltd). USP 2 932 935, Apr. 19, 1960. (2596)

Jet assembly for the production of random loops in a continuous filament yarn by the action of a turbulent air stream.

FABRIC PRODUCTION C

ADAPTER FOR BRAIDER CARRIER. S. O. Silver and J. Jeannotte. USP 2 933 971, Apr. 26, 1960. (2597)

Adapter for spacing a bobbin away from the base of the carrier to protect the bobbin teeth from wear and to prevent dirt accumulated on the carrier base from being transmitted to the bobbin.

Warping, slashing, yarn preparation C1

YARN CLEARERS FOR WINDING APPARATUS. A. E. Naylor. BP 826 413, Jan. 6, 1960. Through BCIRA 40: 1198 (1960). (2598)

The device is fitted with a guillotine blade and coacting arm or shearing block for severing a running yarn if a thick place obstructs a pivoted guide.

MECHANICALLY OPERATED KNOT-TYING APPARATUS. F. Holt and G. Lee (to Thomas Holt Ltd). BP 826 935, Jan. 27, 1960. Through BCIRA 40: 1199 (1960). (2599)

The invention relates to cam mechanism by means of which the motor that drives the knot-tying apparatus runs for the duration of the cycle of tying operations but is then switched off.

WINDING MACHINERY. H. Klein, A. Steingrübner, and H. Grosschopf (to Wahl Bros.). USP 2 931 162, Apr. 5, 1960. (2600)

Apparatus for winding two filaments in opposite directions about a core.

COMBINED FIBER LAYING AND SLASHING APPARATUS. J. Cocker, III (to Cocker Mach. & Foundry Co.). USP 2 932 076, Apr. 12, 1960. (2601)

HOT AIR DRYER UNIT FOR YARN SLASHERS. G. L. Ball (to Batson-Cook Co.). USP 2 932 903, Apr. 19, 1960. (2602)

The passage of air is directed against the yarn in its direction of travel to minimize agitation and tangling of the yarn.

TRAVERSE MECHANISM FOR CROSS WINDING MACHINE. W. Steeger (Germany). USP 2 934 284, Apr. 26, 1960. (2603)

The cam groove is provided in a reverse worm spindle and the thread guide is pivoted to an elongated follower in such a way that this rotates through a small angle at each reversal, so that the guide is displaced relatively to the center of the follower.

AUTOMATIC BOBBIN WINDING MACHINES. G. J. Barbati (to United Shoe Machy. Corp.). USP 2 935 268, May 3, 1960. (2604)

Yarn severing means for machines in which the yarn is impregnated with hot wax during winding.

Weaving C2

TENSIONING MEANS FOR WEFT YARNS DURING REPLENISHING. Tissomat AG. BP 825 764, Dec. 23, 1959. Through BCIRA 40: 1201 (1960). (2605)

In automatic multiple-box looms the ends of weft coming from the idle compartments must be kept taut for correct bobbin exchange but, in the course of several exchanges, the end from a bobbin moving from the top to the bottom of the magazine tends to slacken. To overcome this the magazine is fitted with a support that carries guides, one for each compartment, which control hooks for engaging the collected ends of weft of all the bobbins in the respective compartment of the magazine and holding them taut against an attachment also carried by the support.

BRAKE TONGUE FOR SHUTTLE BOX COMPARTMENTS. Tissomat AG. BP 825 765, Dec. 23, 1959. Through BCIRA 40: 1202 (1960). (2606)

To reduce the noise and shock conditions in shuttle checking, the compartments of the shuttle box are fitted with a brake tongue that incorporates a closed length of rubber tube fitted with a valve and coated at its front end with wear-resistant material. The tube is housed in a channel member.

PERFORATED CARD BELTS FOR JACQUARD LOOMS. F. H. Schroers and W. Schroers. BP 826 327, Jan. 6, 1960. Through BCIRA 40: 1200 (1960). (2607)

The invention relates to a jacquard card belt that remains flat and of constant width in spite of changing atmospheric conditions. A paper web is cut into strips and these are pasted side by side on to a band of foil (e.g. polyvinyl chloride) of the required width. Reinforcing strips are cemented over the butt edges where are situated the rows of perforations for feeding the belt.

LOOM REEDS. F. H. Kaufmann (to Steel Heddle Mfg. Co.). USP 2 931 396, Apr. 5, 1960. (2608)

The end struts of the reeds are of substantially elliptical cross-section to permit the shuttle to pass more freely at the beginning of its travel across the loom and thereby reduce wear both on the reed and on the shuttle.

AUTOMATIC BOBBIN CHANGING APPARATUS FOR LOOMS. A. Deucher (to Maschinenfabrik Ruti AG). USP 2 931 397, Apr. 5, 1960. (2609)

YARN TENSIONING MECHANISM FOR VELVET CARPET LOOMS. J. H. Patrick (to Beattie Mfg. Co.). USP 2 932 325, Apr. 12, 1960. (2610)

Mechanism for keeping pile yarn under constant tension regardless of the presence of pile wires of unequal height.

HARNESS CONTROLLED LOOM STOP MOTION. J. R. May. USP 2 932 326, Apr. 12, 1960. (2611)

Electrically controlled device for arresting loom operation if one or more of the harness frames drops due to slackness or a break in the harness strap.

PILE CARPET WEAVING. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 932 328, Apr. 12, 1960. (2612)

Streaks and lining effects are eliminated by manipulating two or more pile warp ends through the same heddle eye and crossing them into adjacent dents.

DEVICE FOR DRIVING TAPE LOOM HEDDLES. A. Morosini (to Imatex Industria Macchine Tessili SRL). USP 2 935 093, May 3, 1960. (2613)

DEVICE FOR DRIVING TAPE LOOM CURVED NEEDLES. A. Morosini (to Imatex Industria Macchine Tessili SRL). USP 2 935 094, May 3, 1960. (2614)

Knitting C3

ELECTRICAL STOP MOTION FOR KNITTING MACHINES. R. Schmidt (to Franz Morat KG). USP 2 930 861, Mar. 29, 1960. (2615)

The stop motion is actuated by either yarn breakage or excess yarn tension.

WARP KNITTING APPARATUS. M. Newman. USP 2 931 197, Apr. 5, 1960. (2616)

Endless link chain for determining the pattern of movement of the loop forming members.

SINKER HEAD CONSTRUCTION FOR STRAIGHT BAR KNITTING MACHINES. G. Bitzer (to Textile Mach. Works). USP 2 931 198, Apr. 5, 1960. (2617)

Metallic sinker head with replaceable nylon bearing portions which are bonded together by means of a thermosetting adhesive.

HOSIERY TURNING AND STACKING APPARATUS. T. H. De Spain (to So. Textile Machy. Co.). USP 2 931 544, Apr. 5, 1960. (2618)

CIRCULAR HOSIERY MACHINE. R. H. Lawson (to Scott & Williams Inc.). USP 2 932 182, Apr. 12, 1960. (2619)

Takeup or tensioning means for stockings started on bare needles.

CIRCULAR HOSIERY MACHINE. J. L. Getaz (to U. S. Trust Co.). USP 2 932 959, Apr. 19, 1960. (2620)

Cylinder control mechanism for raising a limited number of needles out of action while knitting a series of long courses so that the toe may be closed by a longitudinal seam in the sole (Getaz toe closure).

METHOD OF KNITTING FLOATLESS ARGYLE PATTERNED HOSIERY. N. Levin (to Textile Mach. Works). USP 2 933 906, Apr. 26, 1960. (2621)

PILE FABRIC KNITTING APPARATUS. R. H. Lawson and J. B. Lawson (to Ames Textile Corp.). USP 2 933 907, Apr. 26, 1960. (2622)

Mechanism in a circular knitting machine for drawing pile loops and for severing the loops to form a cut pile.

SELVAGE CLIPPER FOR CIRCULAR HOSIERY MACHINE. T. J. Thore (to Fidelity Mach. Co.). USP 2 933 908, Apr. 26, 1960. (2623)

STOP MOTION DEVICE FOR CIRCULAR KNITTING MACHINES. V Hanzl and H. Lunák (to Zapadomoravske Strojirny). USP 2 933 909, Apr. 26, 1960. (2624)

Individual electric guard elements acting on a central stop motion device which stops the machine operation by electromagnetic means in the event of trouble in the needle latches or butts or breaking or running out of the yarn.

SELVAGE ATTACHMENT FOR CIRCULAR KNITTING MACHINE STOP MOTIONS. M. Antonevich (to Crawford Mfg. Co.). USP 2 933 910, Apr. 26, 1960. (2625)

Means for engaging the detector fingers of the stop motion to prevent their forward movement through the fabric selvage, so that the detector is inoperative in the area of the selvage.

Fabrics C4

SYNTHETIC RESIN LAMINATES REINFORCED BY GLASS FIBER. C. Skorts and G. Huisman (to Filon Intern. Establishment). BP 826 412, Jan. 6, 1960. Through BCIRA 40: 1236 (1960). (2626)

NONWOVEN SYNTHETIC FIBER BATT FORMATION. B. F. Adams, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 933 774, Apr. 26, 1960. (2627)

Warp yarns are employed to confine the fiber layers from deviating from a horizontal path.

UNDERCOLLAR FOR A COAT, JACKET, OR SIMILAR GARMENT. S. Fischer. BP 827 098, Feb. 3, 1960. Through BCIRA 40: 1353 (1960). (2628)

The undercollar is made, as usual, with a bottom cloth of stiff linen or cotton and a top cloth of wool, but these are woven as a double cloth with a binding warp interlacing the two wefts at spaced points.

STARCH/POLYVINYL ALCOHOL ADHESIVES. R. L. Hawkins. BP 827 304, Feb. 3, 1960. Through BCIRA 40: 1385 (1960). (2629)

The claims are for a dry composition for laminating paper, etc., containing 35-60 parts of unswollen starch, 35-60 parts of a polyvinyl alcohol, 5-11 parts of sodium carboxymethylcellulose, 2 parts of ammonium sulfate, 0.5 part of formaldehyde (or paraformaldehyde), and 0.5 part of a preservative, e.g. benzoic acid.

SEWABLE NONWOVEN ADHESIVELY-BONDED FIBER FLEECES HAVING ONE ROUGH SURFACE. G. Schickedanz, C. W. Leupold, and K. Sponsel. BP 827 370, Feb. 3, 1960. Through BCIRA 40: 1352 (1960). (2630)

Multi-ply carded fleece (cotton, nylon, wool) is sprayed on both faces with solution or emulsion that, on heating, will condense to a bonding adhesive. After the heat treatment, the fleece is split medially to give two nonwoven fabrics each with one rough surface.

APPARATUS FOR FORMING GLASS FIBER MATS. R. A. Plumbo (to Friedrich & Dimmock Inc.). USP 2 928 121, Mar. 15, 1960. (2631)

ASTRAKHAN PILE CARPET WEAVING. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 929 413, Mar. 22, 1960. (2632)

WOVEN FABRIC WITH ONE SURFACE OF STAPLE FIBER YARN AND THE OTHER OF FILAMENT YARN. K. K. Masters. USP 2 931 398, Apr. 5, 1960. (2633)

Fabric woven of both staple fibers and continuous filaments so that one side presents a surface of staple fibers and the other a surface of synthetic filaments. Water repellency, stiffness, and glossiness are imparted by the synthetic filaments, and absorbency and softness by the staple fibers.

MACHINE FOR PRODUCING PILE FABRICS. C. Paerse (to Paerse-Laing Ltd). USP 2 931 418, Apr. 5, 1960. (2634)

Means for bending continuous filaments into a succession of connected loops and for applying a fluid plastic substance to provide a foundation for the fabric.

APPARATUS FOR THE PRODUCTION OF A THIN GLASS FIBER MAT. W. Schuller (England). USP 2 931 421, Apr. 5, 1960. (2635)

Separate filaments formed from molten glass are passed onto the peripheral surface of a rotating drum, and a scraper member lying adjacent to the drum in conjunction with the air current caused by the drum rotation raises the filaments and cuts them into staple lengths which are deposited in matted form.

BONDED GLASS FIBER HIGH TEMPERATURE INSULATION. J. P. Stalego (to Owens-Corning Fiberglas Corp.). USP 2 931 738, Apr. 5, 1960. (2636)

BONDING AGENT FOR GLASS FIBER REINFORCED EPOXY RESIN LAMINATE. A. Marzocchi and N. S. Janetos (to Owens-Corning Fiberglas Corp.). USP 2 931 739, Apr. 5, 1960. (2637)

FINISHING D

Chemical processes D1

ROTARY WASHING MACHINE. G. Dowell (to Cherry Tree Mach. Co. Ltd). BP 819 251 and 825 959, Sept. 2, 1959 and Dec. 23, 1959. Through BCIRA 40: 1098 (1960). (2638)

The rotary container of a washing, drycleaning, or garment dyeing machine is divided at one or each end into angularly-spaced compartments that lift liquid from the outside casing as the container rotates and discharge it into a stationary collector for recirculation (if it is the wash or dye liquor) or for running to waste (if rinsing water). The overflow pipe is adjustable in height.

ANTISTATIC AGENTS FOR SUBSTANCES OF HIGH MOLECULAR WEIGHT. Chemische Werke Hüls AG. BP 826 798, Jan. 20, 1960. Through BCIRA 40: 1235 (1960). (2639)

The agents are ethers of dioxane, e.g. di-β-(β'-ethoxy)-ethoxy-ethoxy-dioxane. In the examples they are used to make antistatic floor coverings and foils based on polyvinyl chloride.

DRIVE OF MACHINES FOR OPEN WIDTH TREATMENT OF TEXTILES. W. Mycock (to Calico Printers Engineers Ltd). BP 827 343, Feb. 3, 1960. Through BCIRA 40: 1382 (1960). (2640)

Each pair or set of rollers for conveying fabric in open width through a succession of baths or machines is driven through two pulleys, either two cones or a cone and a cylinder, one of which drives the other through a belt controlled by a compensating roller that moves in accordance with variations of tension in the fabric.

DEVICE FOR HEATING A CLOTH WEB. B. F. H. Mellbin (Sweden). BP 827 447, Feb. 3, 1960. Through BCIRA 40: 1383 (1960). (2641)

Just before the cloth is wound upon a roll, it passes in contact over a steam tube that bears resiliently against it. Steam escaping through holes in the tube heats the cloth in the space where the web makes a tangent with the roll.

PERMANENT WATER REPELLENT COMPOSITION. D. D. Gagliardi (to Gagliardi Research Corp.). USP 2 926 062, Feb. 23, 1960. (2642)

Oil-in-water emulsion containing in the oil phase a glyceride-free vegetable wax having at least one reactive hydroxyl group, in the water phase a thermosetting, chlorine resistant heterocyclic nitrogen-containing cross-linking agent, and in the interface, a water-soluble, anionic emulsifier.

PEROXIDE BLEACHING PROCESS. K. Dithmar and E. Naujoks (to Deutsche Gold- und Silber-Scheideanstalt). USP 2 927 840, Mar. 8, 1960. (2643)

Organic nitrile compounds are added to the peroxide bath to activate the decomposition of the peroxide at temperatures below boiling.

CHROMIC ACID TREATMENT OF LAND FOWL FEATHERS TO INCREASE THEIR FLUFFINESS. V. Z. Pasternak and R. M. Lollar (to U.S. Secy. Army). USP 2 928 713, Mar. 15, 1960. (2644)

EPICHLOROHYDRIN TREATMENT OF LAND FOWL FEATHERS TO INCREASE THEIR FLUFFINESS. V. Z. Pasternak (to U.S. Secy. Army). USP 2 928 714, Mar. 15, 1960. (2645)

METAL COATED GLASS FIBERS. H. B. Whitehurst and W. H. Otto (to Owens-Corning Fiberglas Corp.). USP 2 928 716, Mar. 15, 1960. (2646)

Molten metal is applied to the fiber immediately upon its formation and while it is at the same temperature as the molten metal.

PRODUCTION OF SOIL-RESISTANT VISCOSE FIBERS. J. W. Schappel (to Am. Viscose Corp.). USP 2 928 754, Mar. 15, 1960. (2647)

The viscose fibers are treated with a stabilized colloidal suspension of silica containing small amounts of a basic aluminum salt and sufficient ionic barium to react with all of the soluble sulfate present in the solution.

ODOR CONTROL IN RESIN FINISHING. H. M. Waddle, J. F. Cotton, and R. E. Hudson, Jr. (to West Point Mfg. Co.). USP 2 928 758, Mar. 15, 1960. (2648)

Undesirable aldehyde and amine odors in textiles finished with aldehyde resins are controlled by impregnating the material with a compound supplying the bisulfite ion and heating to cause the bisulfite ion to react with all the free and potentially free aldehyde.

WATERPROOFING COMPOSITION FOR HOME APPLICATION. D. V. Brown (to Gen. Elec. Co.). USP 2 928 799, Mar. 15, 1960. (2649)

A composition which can be applied from an aerosol container to render a textile surface water repellent consists of a pressurized mixture of an organopolysiloxane, a titanate, and a wax.

POLYVINYL CHLORIDE COATED TEXTILES. W. Tischbein (to Farbenfabriken Bayer AG and Mobay Chem. Co.). USP 2 929 737, Mar. 22, 1960. (2650)

Improved bonding is obtained by pretreating the fabric with a solution of a polyester containing hydroxyl or carboxyl end groups and applying a coating of polyvinyl chloride containing a polyisocyanate.

CREASE RESISTANT RESIN COMPOSITION. W. W. Bakke and W. F. Tousignant (to Dow Chem. Co.). USP 2 930 716, Mar. 29, 1960. (2651)

The reaction product of formaldehyde with tetrahydro-5-hydroxy-2(1H)-pyrimidone is claimed.

COATING GLASS FIBER YARNS WITH A PLASTISOL. S. Bateson and J. Chrystman (to Pittsburgh Plate Glass Co.). USP 2 929 738, Mar. 22, 1960. (2652)

RESIN FINISHING CELLULOSE MATERIAL. G. Mino and G. F. Cordahi (to Am. Cyanamid Co.). USP 2 929 743, Mar. 22, 1960. (2653)

Wear resistant cellulose fabrics with a soft, full, dry hand durable to drycleaning and washing are obtained by impregnation with a composition of a thermosetting aminoplast resin and a thermoplastic copolymer latex.

WRINKLE RESISTANT COTTON FABRICS. R. L. Wayland, Jr., M. P. Underwood, and G. S. Y. Poon (to Dan River Mills). USP 2 929 798, Mar. 22, 1960. (2654)

Nonchlorine retentive fabrics are produced by impregnation with a composition obtained by condensing dimethylolethylene urea with melamine and reacting the product with formaldehyde.

WRINKLE RESISTANT COTTON FABRICS. G. S. Y. Poon (to Dan River Mills). USP 2 929 799, Mar. 22, 1960. (2655)

Nonchlorine retentive fabrics are obtained by impregnation with a composition obtained by condensing ethylene urea with melamine and reacting the product with formaldehyde.

ABRASION RESISTANT METAL COATED GLASS FIBERS. C. B. Budd (to B. F. Goodrich Co.). USP 2 930 105, Mar. 29, 1960. (2656)

The fibers are coated individually with a metal and a lubricant layer over the metal so that the fibers are free from glass-to-glass contact when formed into a yarn.

Dyeing and printing D2

DYEING CELLULOSIC TEXTILES. W. Clarke, W. E. Stephen, and C. D. Weston (to Imp. Chem. Inds. Ltd). BP 825 771, Dec. 23, 1959. Through BCIRA 40: 1057 (1960). (2657)

Fast dyeings are obtained by applying in a first stage a heterocyclic compound containing at least one -N:CHal- group, especially those obtained by the action of cyanuric chloride on dyes and intermediates containing free amino groups, and in a second stage a diazonium salt containing an electronegative substituent. If the material is colored in the first stage it may be printed with a resist paste (e.g. wax) before the second treatment.

DYEING PROCESS FOR SILK AND NYLON. W. P. Mills, I. D. Rattee, and W. E. Stephen (to Imp. Chem. Inds. Ltd). BP 826 375, Jan. 6, 1960. Through BCIRA 40: 1233 (1960). (2658)

The dye used is a soluble azo- or anthraquinone-dye containing a 4:6-dihalogeno-s-triazinyl-2-amino group and at least one ionogenic solubilizing group.

GREEN ANTHRAQUINONE DYES FOR POLYESTER FIBERS. R. H. Horning (to Crompton & Knowles Corp.). USP 2 929 810, Mar. 22, 1960. (2659)

DYEING PROCESS FOR PROTEIN TEXTILE MATERIALS. H. R. Hadfield, B. Batterbee, and D. R. Lemin (to Imp. Chem. Inds. Ltd). BP 826 376, Jan. 6, 1960. Through BCIRA 40: 1234 (1960). (2660)

Protein materials, especially silk, are dyed in an aqueous solution at about 25° C containing (1) an azo- or anthraquinone-dye bearing at least one s-triazinyl-amino group substituted in the triazine ring by at least one halogen atom, and (2) up to 3% of an acid-binding agent (e.g. soda ash).

CARPET PRINTING. S. Horrocks and W. G. Farrer (to Stalwart Mfg. Co. Ltd). BP 827 432, Feb. 3, 1960. Through BCIRA 40: 1384 (1960). (2661)

The invention relates particularly to the printing of carpets in web form. The pattern is applied to an impervious roller as patches of absorbent material that take up the dye as the roller rotates, at an adjustable depth, in a constant level trough. One complete repeat of the pattern is arranged on the roller surface, with which the carpet web makes contact in its continuous run.

TEXTILE SCREEN PRINTING MACHINE. M. Stein and L. F. Werner. USP 2 928 340, Mar. 15, 1960. (2662)

Machine which can print patterns using inexpensive, ordinary silk screens which are commercially available.

DYEING PROCESS FOR CELLULOSIC TEXTILES. R. L. Denyer and H. R. Hadfield (to Imp. Chem. Inds. Ltd). USP 2 928 711, Mar. 15, 1960. (2663)

Dyeings and prints of extremely good washfastness are obtained by padding the material with a single aqueous solution containing an alkali, a water soluble heterocyclic compound containing two —N=C-halogen groups, and a dye containing a reactive amino group, and heating or steaming the fabric.

MOLTEN UREA DYEING PROCESS. S. N. Bradshaw (to Courtaulds Ltd). USP 2 928 712, Mar. 15, 1960. (2664)

The textile is impregnated with a solution of urea and an aqueous solution or dispersion of a dye soluble in molten urea, drying at a temperature below the melting point of urea, heating to melt the urea to cause dyestuff transfer, and washing to remove the urea.

MOLTEN UREA DYEING PROCESS. S. N. Bradshaw and H. B. Mann (to Courtaulds Ltd). USP 2 930 670, Mar. 29, 1960. (2665)

Mechanical processes D3

FLOCKED FABRICS. Carl Freudenberg Kommanditges auf Aktien. BP 819 333, Sept. 2, 1959. Through BCIRA 40: 1061 (1960). (2666)

The claims are for fabrics with several layers of upstanding flock fibers fixed to a base and, in succession, to one another by dew-like sprays of adhesive.

ELECTRIFIERS FOR THE PROCESSING OF FUR AND PILE FABRICS. R. S. Schaab and R. E. Brandt (to George W. Borg Corp.). USP 2 934 809, May 3, 1960. (2667)

BURNER FOR SINGEING FABRICS. A. Schlangen (Germany). BP 827 303, Feb. 3, 1960. Through BCIRA 40: 1381 (1960). (2668)

Burner for singeing fabrics made from synthetic fibers, fed with propane, butane or methane, has two mixing chambers (in succession) for the gaseous fuel and air and a combustion chamber of pear-shaped cross-section fitted with ribs in the region of the tip of the flame. The fabric is exposed only to the heat radiated from the red-hot ribs.

EMBOSSING METHOD AND APPARATUS FOR PLASTIC SHEETS. R. H. Hugger (to U. S. Rubber Co.). USP 2 928 124, Mar. 15, 1960. (2669)

The plastic sheet is raised to the embossing temperature in a heater in which it is supported by a current of air, and the softened sheet is then passed directly into the nip of the embossing rolls.

REMOVAL OF GLAZE FROM ACRYLIC FIBER FABRICS. L. D. Swan (to E. I. du Pont de Nemours & Co.). USP 2 930 099, Mar. 29, 1960. (2670)

Heat and pressure impressed glaze or luster is removed by subjecting the fabric in a relaxed condition to 160° C for 2 to 3 min.

MULTIPURPOSE CALENDER. B. D. Stewart (to McKiernan-Terry Corp.). USP 2 931 113, Apr. 5, 1960. (2671)

Two-roll machine, in which the rolls are connected by a gear train, is made up of a few parts compactly arranged so as to require a minimum of space both vertically and horizontally and is adapted for performing such different operations as frictioning, glazing, rolling, schreinering, embossing, etc.

REDUCING THE HEAT SHRINKAGE OF NYLON TIRE CORDS. M. W. Wilson (to B. F. Goodrich Co.). USP 2 932 078, Apr. 12, 1960. (2672)

METHOD AND APPARATUS FOR HEAT STRETCHING SYNTHETIC FIBER TIRE CORDS. S. Salem and R. H. Spelman (to Gen. Tire & Rubber Co.). USP 2 932 901, Apr. 19, 1960. (2673)

Method by which penetration of the latex adhesive into the central portion of the fiber cords is prevented by means of a water dip prior to the latex dip and the use of high tensions during dipping.

Drying, setting, conditioning D4

HEAT SETTING TREATMENT FOR TUBULAR KNITTED FABRIC OF THERMOPLASTIC FIBERS. T. Geeson (to Adshead & Geeson Ltd). BP 826 858, Jan. 27, 1960. (Addition to BP 683 075). Through BCIRA 40: 1237 (1960). (2674)

CONTINUOUS DRYING MACHINE FOR TUBULAR KNIT FABRICS. E. H. Johnson (to Fitch Textile Co.). USP 2 929 127, Mar. 22, 1960. (2675)

The heat is applied on the outside of the tubing as a stream of air moving in the same direction as the fabric.

APPARATUS FOR DRYING LOOSE FIBERS. E. Kiefer (Germany). BP 826 785, Jan. 20, 1960. Through BCIRA 40: 1238 (1960). (2676)

The apparatus has at least two perforated drums in succession, each fitted with cover plates for masking parts of their surfaces against suction. The drums are driven at different speeds, so that as the layer of fiber passes over one drum to the next it will be either drawn apart or pushed together, with the result that the relative positions of the fibers will be changed.

SEED COTTON DRYER. A. L. Smith (to Continental Gin Co.). USP 2 932 857, Apr. 19, 1960. (2677)

Lower dryer for opening and fluffing the cotton and exposing the cotton to moderate fiber temperatures for relatively short periods.

TESTING AND MEASUREMENT E

Fibers E1

DETERMINATION OF THE NUMBER OF FIBERS OF APPROXIMATELY THE SAME LENGTH IN A COTTON SAMPLE. Licencia Talalmanyokat Ertekesito Vallalat. BP 817 833, Aug. 6, 1959. Through BCIRA 40: 830 (1960). (2678)

A sorter of the Cambridge type is intermittently operated above a traveling, endless band of black plush so that fibers belonging to the various length groups are deposited successively in decreasing order of length. The band carries one group after another past a beam of light, the reflected light excites a photoelectric cell and the photocurrent is used to plot a diagram in which a quantity proportional to the number of fibers in a group is plotted against the group length.

Fabrics E3

APPARATUS FOR TESTING MATERIALS FOR ABRASION RESISTANCE. I. Williams (to J. M. Huber Corp.). USP 2 929 240, Mar. 22, 1960. (2679)

Apparatus with means for automatically maintaining a constant amount of abrasion on each test piece in a given period of time.

FABRIC INSPECTION APPARATUS. P. Dornier (to Lindauer Dornier GmbH). USP 2 935 559, May 3, 1960. (2680)

Optical means for transmitting an image of the fabric to a camera or other suitable viewing apparatus.

MILL MANAGEMENT F

Plant and equipment F2

ACCESSORY FAN FOR CLEANING TEXTILE MACHINES. G. Dätwyler (Switzerland). USP 2 924 063, Feb. 9, 1960. (2681)

Blower means for producing continuous air currents in textile machines which combines the operations of machine cleaning and drawing off broken threads.